March 13, 2015

Via Email

Mr. James Justice
United States Environmental Protection Agency
Region 5
25063 Center Ridge Road
Westlake, Ohio 44145

RE: Response to US EPA Letter dated February 24, 2015

Dear Mr. Justice:

We have had an opportunity to review your letter conditionally approving Statoil's draft work plan with modifications ("Approval Letter"), dated February 24, 2015. As way of background, Statoil submitted a second draft of its work plan to EPA for review on December 23, 2014 ("Draft Work Plan"). As confirmed by Ms. Kim Portnoy of EPA on March 2, the date of our receipt of the Approval Letter is March 2, 2015. Accordingly, March 2 is the date that Statoil will use for purposes of calculating the due dates for certain obligations established in the administrative settlement agreement and order on consent ("AOC").

With this letter, we wish to: (1) set forth our understanding of certain items discussed in the Approval Letter, (2) identify concerns with some of the modifications set forth in the Approval Letter, and (3) obtain resolution from EPA regarding items that Statoil has previously raised to EPA. The framework of this letter follows the order of items as set forth in the Approval Letter.

I. Issues related to General Comments

Statoil has previously, through discussions, requested permission from EPA to cease collection and containment activities of the outfalls associated with the well pad (both the pad drainage system and the slope drainage system). Based on all of the available analytical data pertaining to the well pad, there is no basis to continue to collect and contain water from the pad and slope drainage systems. All analytes specified in the Water, Soil, and Sediment Sampling and Analysis Adjustment Plan ("Adjustment Plan") reviewed by the federal On-Scene Coordinator on July 17, 2014, have been below ecological screening levels protective of aquatic life and wildlife. Further, Statoil's final report to the Ohio Department of Natural Resources ("ODNR") pertaining to the Eisenbarth well pad demonstrates that there are no surface, subsurface, or groundwater impacts arising from the June 28, 2014 fire. *See* Attachment 1 (Statoil ODNR Site Investigation Report).

Notably, collection, containment, and disposal activities for the pad and slope drainage systems cost approximately $130,000 per week. Statoil began implementing these activities on June 29, 2014. Based on a robust, comprehensive data set, there is no reasonable basis to require Statoil to incur such a significant expense. Accordingly, Statoil requests authorization from EPA

to cease these collection and containment activities. If EPA does not believe it is the regulatory agency with the authority to authorize Statoil to discontinue these activities, we request that EPA notify Statoil of its view and the basis for that view.

Further, EPA stated that Statoil can begin "some portions of the work to be performed as part of the AOC . . . prior to the completion of any remedial activities of the Eisenbarth well pad as long as existing containment measures are maintained." *See* Approval Letter at 1. Statoil has completed remedial activities associated with the well pad under the oversight of the ODNR. These activities included the removal of all equipment and debris and the delineation of impacts to soil and groundwater on the pad and its perimeter. No impacts were identified. At this time, ODNR is not requiring any further remedial activities of the pad and Statoil believes that no further investigation or on-site remedial action is warranted, as discussed in Statoil's final report to ODNR. *See* Attachment 1.

Finally, in Statoil's Draft Work Plan, Statoil expressly requested authorization from EPA to discontinue sampling activities under the Adjustment Plan within 3 business days of EPA's approval of the Work Plan. We made this request because once the Draft Work Plan was approved, all sampling and monitoring activities should be governed by the approved Work Plan. Further, Paragraph 16 of the AOC specifies that Statoil "may continue to implement" the Adjustment Plan "as appropriate." Now that the Work Plan has been approved, it is no longer appropriate to continue to implement the Adjustment Plan. Further, these activities cost Statoil approximately $155,000 per week. EPA's Approval Letter did not address Statoil's request to discontinue sampling under the Adjustment Plan. Accordingly, Statoil renews its request to discontinue sampling activities under the Adjustment Plan and requests that EPA specifically address this request.

II. Issues related to Work Plan Comments

a. Issues related to EPA's Section 15.a.i comments

Statoil does not agree with EPA's view regarding potential migration of TTPC or that additional monitoring for off-site migration of TTPC is necessary.[1] First, as discussed in the Site Investigation Report, soil borings drilled on the pad and its perimeter encountered bedrock beneath the well pad. *See* Attachment 1 at 1, 12. A hard copy of this report with appendices is being sent via First Class Mail. These borings are expected to be representative of all material that could have potentially been impacted by the June 2014 pad incident. Further, as discussed in the final Site Investigation Report, the continuous layer of bedrock provides a natural barrier against the migration of potential onsite constituents deeper into the subsurface. Second, the few *de minimis* detections of TTPC at a depth below the upper four feet of soil are orders of magnitude lower than the action level established for the ODNR investigation. Finally, TTPC has been detected in background samples in various media (e.g., soil and surface water) unrelated to the well pad. Thus, *de minimis* subsurface detections of TTPC are unlikely to be a result of the June 2014 pad incident. Statoil provided an evaluation of the TTPC data in the final report to ODNR, which supports Statoil's view that no further monitoring for TTPC is

[1] EPA's comment is unclear as to whether Statoil is being asked to monitor only for TTPC or for other constituents.

warranted. *See* Attachment 1, Section 7.0 Data Evaluation, at 13-15. Accordingly, Statoil does not agree that all outfalls and installed monitoring wells should be sampled on a quarterly basis for a year as specified by EPA in comment 1.a. Further, Statoil does not agree it is appropriate to sample private residential wells as specified by EPA in comments 1.b and 1.c. The closest residential well is 900 feet to the south of the well pad, and separated by surface water. Thus it is not physically possible for constituents to migrate from the well pad and reach this residential private well. Further, Statoil's obligation under Section 15.a.i is to monitor for potential migration to Opossum Creek, and these residential wells are not hydraulically connected to Opossum Creek

b. Issues related to EPA's Section 15.a.ii comments

EPA requested clarification from Statoil regarding the proposed sampling locations for Section 15.a.ii. Specifically, EPA requested that Statoil confirm that the 12" HDPE pipe that receives flow from the southern edge of the well pad is covered by a sampling location. EPA also stated that there are four outfalls associated with drainage from the pad.

As a threshold matter, Statoil does not agree that there are four outfalls that drain water from the well pad for the reasons stated in the Draft Work Plan. Four outfalls are associated with the Eisenbarth pad and slopes. Two of these outfalls drain the pad, PD07 and PD10, and two of these outfalls drain the slope for stability purposes, PD03 and SW24. In the Draft Work Plan, PD03 is listed as a sampling point for the southern slope. PD10 is not a viable option for continuous sampling as it is an intermittent stream. Statoil suggests the use of SW02 in addition to the 11 locations listed in the work plan. Additionally, Statoil has recently learned that the pipe under the access road at the entrance to the pad was cut and cemented closed following the incident. Statoil has updated the map (enclosed as Attachment 2) to show the names of the outfalls and the site drainage system.

Finally, for the reasons discussed in Section I, above, Statoil does not agree with comment 4 to Section 15.a.ii that it should be required to sample collection points at the outfalls on a monthly basis until containment is discontinued. In light of the sampling data, there is no basis to continue these monitoring and sampling activities.

c. Issues related to Section 15.a.iii comments

As we understand EPA's comment 1.a, EPA has requested that we change the proposed location of the whole sediment toxicity testing ("WST") so that it is taken from the same location as the sample for the whole effluent toxicity testing ("WET"). We request that EPA confirm our understanding of this comment. Second, EPA requested that Statoil perform chronic WET testing in addition to acute testing. Rather than perform two separate WET tests, i.e., one for acute and one for chronic, Statoil intends to perform the chronic WET test and to extrapolate the data to obtain the acute results. Accordingly, the chronic WET test would be used to address both the chronic and acute criteria.

As requested, Statoil will use two methods specified in EPA's Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater

Invertebrates ("Methods manual"), EPA 600/R-99/064, for WST testing. Statoil will use Test Method 100.4: *Hyalella azteca* 42-d Test for Measuring the Effects of Sediment associated Contaminants on Survival, Growth, and Reproduction. Statoil proposes to use the survival and growth endpoints in the *H. azteca* study at 28 days. The USGS-Columbia Environmental Research Laboratory indicates that a 42-day endpoint is variable and tends to provide little information beyond what is provided by 14-day or 28-day endpoints. (http://pubs.usgs.gov/sir/2013/5125/pdf/sir2013-5125.pdf) *See* Attachment 3, Workshop Summary Report at page 11. In addition, the 28-day endpoint is the most sensitive as noted in Guidance Manual to Support the Assessment of Contaminated Sediments in Freshwater, Estuarine, and Marine Ecosystems in British Columbia; Volume III – Interpretation of the Results of Sediment Quality Investigations (http://www.env.gov.bc.ca/epd/remediation/guidance/technical/pdf/x19_v3.pdf). In addition to the above, Statoil will use Test Method 100.5: Life-cycle Test for Measuring the Effects of Sediment-associated Contaminants on *Chironomus (dilutus) tentans*. For this method, the endpoints that Statoil will use are: 20 day survival, 20 day growth, time to first emergence, total emergence and total survival of adults.

Finally, EPA requested that Statoil determine no-observed-adverse-affect-levels (NOAELs) and lowest-observed-adverse-affect-levels (LOAELs) for the WST testing. We do not agree that these levels are applicable to sediment testing. Based upon discussions with the analytical lab, it is our understanding that NOAELs and LOAELs cannot be calculated for sediments.

EPA requested that the WET and WST tests be conducted in 2015. Statoil seeks clarification regarding the timing of such testing. Specifically, since EPA has requested that Statoil change the location of the WET testing so that it is co-located with the WST testing, it is Statoil's understanding that it may proceed with this aspect of the Work Plan independent of any pad remediation work. In addition, Statoil would like clarification that WET and WST should only be conducted in 2015 and testing in 2016, as suggested by the schedule in the Draft Work Plan, is not necessary. We request EPA's confirmation of our understanding.

III. Issues Related to the Proposed Schedule of Tasks

Pursuant to the AOC, Statoil was required to submit to EPA a schedule for the required removal actions. *See* AOC Paragraph 16(a). Statoil included a Proposed Schedule of Tasks in its Draft Work Plan. *See* Draft Work Plan at 18-19, Table 7. In light of the comments and proposed modifications in EPA's Approval Letter, Statoil believes that the proposed schedule it submitted as part of the Draft Work Plan should also be modified. As mentioned above, Statoil will use the March 2, 2015, approval date as the starting date for certain activities specified in the conditionally approved Work Plan. Statoil proposes the following schedule to address EPA's comments and proposed modifications to the Work Plan:

Description of Actions	Time Required for Task
1. Review and evaluate data collected as of March 2, 2015 for 15.a.i	6 weeks after approval of Work Plan by EPA – April 13, 2015

Description of Actions	Time Required for Task
2. Submit report of evaluation of data collected as of March 2, 2015 for 15.a.i	8 weeks after approval of Work Plan by EPA – April 27, 2015
3. Review and evaluate data, if any, specified by EPA in comment 1 to 15.a.i	We have raised concerns regarding this request; we can discuss an appropriate schedule once EPA and Statoil have resolved this issue
4. Submit report of evaluation of data specified by EPA in comment 1 to 15.a.i	We have raised concerns regarding this request; we can discuss an appropriate schedule once EPA and Statoil have resolved this issue
5. Review and evaluate data collected as of March 2, 2015 for 15.a.ii	14 weeks after approval of Work Plan by EPA – June 8, 2015
6. Submit report of evaluation of data collected as of March 2, 2015 for 15.a.ii	16 weeks after approval of Work Plan by EPA – June 22, 2015
7. Perform three sampling events to evaluate surface waters and sediments for 15.a.ii	Not to commence prior to one month following discontinuation of containment activities, with one sampling event in Fall 2015, provided that Statoil has been authorized to discontinue containment activities by "Fall 2015"
8. Review and evaluate data specified by EPA in comments 1-2 to 15.a.ii	14 weeks from Statoil's receipt of the data from the analytical laboratory for the third sampling event
9. Submit report of evaluation of data specified by EPA in comments 1-2 to 15.a.ii	16 weeks from Statoil's receipt of the data from the analytical laboratory for the third sampling event
10. Perform WET and WSTT	End of 3rd Qtr, 2015
11. Perform biological assessment	End of 3rd Qtr, 2016
12. Review and evaluate data for 15.a.iii, including WET, WSTT, and biological assessment	4th Qtr, 2016
13. Write report of evaluation of data for 15.a.iii, including WET, WSTT, and biological assessment	4th Qtr, 2016

The written thirty day progress reports, as required by Paragraph 19.a, will be submitted on the first day of each month, commencing on April 1, 2015. Statoil requests authorization to submit the progress reports via electronic mail rather than in hard copy as specified in Paragraph 19.b.

* * * * *

Thank you for the opportunity to raise these issues to your attention. We hope to discuss these items with you at your earliest convenience so that we can continue to move forward with implementation of the conditionally approved Work Plan. Please note that we view this letter as an informal process of raising these issues and do not believe this is a formal objection under Paragraph 40 of the AOC.

Sincerely,

Steve Tink
Safety and Sustainability Unit Leader, Marcellus

Site Investigation Report

for the

Ohio Department of Natural Resources

Eisenbarth Well Pad Site

March 10, 2015

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The following report details field investigation findings and recommended actions for a June 28, 2014 incident at Statoil's Eisenbarth Pad Site. The Eisenbarth Pad Site is located near Hannibal, Ohio. The June 2014 incident involved a well pad fire that combusted products and equipment stored on-site and released flowback and freshwater used for firefighting from the location.

Investigative on-pad activities followed the procedures outlined in the approved "Eisenbarth Pad – Ohio Operations Incident Sampling and Analysis Plan, Revision 2" (OOI-SAP), prepared by Penn E&R and approved by the Ohio Department of Natural Resources (ODNR) in November 2014. In accordance with this plan, 42 soil borings were drilled on the pad and on the perimeter. Six soil borings were converted into temporary monitoring wells for sampling purposes. All soil borings and monitoring wells were surveyed to determine groundwater flow.

Geologic investigations determined that the soil borings are expected to be representative of all material that could have potentially been impacted by the June 2014 pad incident. The continuous layer of bedrock beneath the pad provides a natural barrier against the migration of any potential onsite constituents ("POSC") deeper into the subsurface. Some *de minimus* detections of TTPC were noted in soils and surface water; however, TTPC was also detected in several background samples at comparable concentrations. Any *de minimis* detections of TTPC are unlikely to be a result of the June 2014 pad incident. Further, none of the soil samples exceed the OEPA Industrial/Commercial program action levels. Drinking Water Standards were chosen as a screening level for groundwater investigations. Other than a slight variation in pH (GP-26), a non-potable well, no other parameters exceeded screening levels.

The data collected during both ODNR and US EPA site activities to date has been compiled and utilized to evaluate the potential need for further removal or restoration activities. Based on the results of this field investigation, the details of which are herein, it is apparent that conditions at the site are naturally attenuating and that there will be no impacts to the soil, stream, sediments, or water from POSCs. Therefore, no further investigation or on-site remedial action is warranted.

1.0 INTRODUCTION

This Site Investigation Report (SIR), prepared by Penn Environmental & Remediation, Inc. (Penn E&R) and Moody and Associates (Moody) on behalf of Statoil USA Onshore Properties, Inc. (Statoil), details findings regarding field investigations at the Eisenbarth Pad located near Hannibal, Ohio following a June 2014 on-site incident.

The objective of this environmental investigation was to field screen, evaluate, collect and analyze soil and water samples to determine the nature and extent of potential impacts to the well pad. Investigative on-pad activities followed the procedures outlined in "Eisenbarth Pad- Ohio Operations Incident Sampling and Analysis Plan, Revision 2" (OOI - SAP), which was prepared by Penn E&R and approved by the ONDR in November 2014.

The approved OOI-SAP outlined the methodology of establishing both on- and near-site soil boring locations for subsurface evaluation, as well as the collection of soil and groundwater samples for laboratory analysis. The OOI-SAP details applicable Potential On-Site Constituents (POSC) (including specific petroleum distillates), the construction and maintenance of all temporary monitoring wells and piezometers, and proposed future actions. This SIR elaborates on the scope of the approved OOI-SAP and outlines the findings since site work has progressed.

2.0 US EPA INVESTIGATION AND WORK PLAN

Completed Activities

Statoil has conducted an investigation with oversight of the US EPA in addition to the sampling conducted under the ODNR program. The directives of the US EPA environmental investigation and sampling included:

- The collection of water, soil, and sediment samples to delineate areas of potential impacts.
- The collection of background surface water, soil, and stream sediment samples to establish a range of background concentrations.
- Address the ongoing monitoring, sampling, and data assessment activities in relation to the Eisenbarth Pad.

The US EPA investigative program, to date, has involved several facets. Drainage pathways down-gradient of the Eisenbarth Pad and waterways located downstream of the incident were visually inspected and photo-documented to note any adverse impacts. Water quality samples were collected from runoff flowing off of the pad prior to well shut-in in an effort to characterize source constituents. Additional surface water samples were, and continue to be, collected downstream of the site from select locations on the tributary to Opossum Creek and Opossum Creek.

Surface water samples are decanted directly into laboratory supplied sample containers and submitted to Pace Analytical, a NELAP-accredited laboratory, in Pittsburgh, Pennsylvania. Stream sediment samples were, and continue to be, collected from areas down-gradient of the Eisenbarth location in order to characterize the alluvial sediments, surface soils, and subsurface soils for the presence of Potential On-Site Constituents (POSC).

To characterize the surface and subsurface soils, soil samples were collected from the pad. Off-pad soil samples were collected from preferential run-off pathways from the pad and select stream sampling locations in conjunction with established surface water sampling locations. Subsurface soil samples were collected from potentially impacted areas both on and off of the well pad. In order to investigate any potential subsurface water or liquid migration from the pad and to assess potential surface soil impacts along the downgradient slopes of the well pad, test pits were excavated at various locations down-gradient of the pad. During these excavations, field screening protocols were utilized in addition to laboratory analysis. Appropriate decontamination procedures were undertaken to minimize the potential for off-pad contamination and cross-contamination between individual sampling locations.

Initially, the US EPA water quality samples for surface water were analyzed for the following:

- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Total Petroleum Hydrocarbons (TPHs)
- Cations
- Anions
- Ethylene Glycol

Initial US EPA samples for sediments were analyzed for:

- VOCs
- SVOCs
- TPHs
- Cations
- Anions
- Ethylene Glycol
- tri-n-butyl tetradecyl phosphonium chloride (TTPC)

On July 17, 2014, the US EPA On-Scene Coordinator approved the reduction of the US EPA required sample parameters for soils, water, and stream sediments to include VOCs, TPH, Anions, and TTPC only. This abbreviated list was implemented on July 19, 2014 and has continued since that time. It should be noted that the US EPA redefined VOCs to include only acetone on July 20, 2014. Below is a table summarizing some of the sampling, containment, remediation and reporting activities that have taken place following the incident.

Table 1: Site Activity Summary
Sampling and monitoring conducted prior to formal Unified Command process
Densometers were evaluated and found to be intact with no signs of radiation outside of background levels
Initial construction of berm in select locations
Pad reclamation activities: identification, collection, profiling, and appropriate disposal of solid and liquid wastes
Monitoring and sampling conducted under guidance of the Environmental Sampling and Analysis Plan (E-SAP), as reviewed by Unified Command
Earthen berm surrounding pad completed; southeast and northwest catch basins converted into recovery sumps
Center for Toxicology and Environmental Health LLC (CTEH) contractors, with piezometers installed at locations with the potential for groundwater interaction
Water, Soil, and Sediment Sampling and Analysis Plan (WSSSAP) Amendment 1.0 reviewed by Unified Command
Sampling under the WSSSAP implemented, replaces E-SAP
Administrative Settlement Agreement Order on Consent for Removal Action per the Eisenbarth Well Pad Site becomes effective
All damaged equipment and the remaining surface debris was removed from the site. The waste was sent to appropriate disposal facilities
"Draft Work Plan for Removal Actions" and the "Health and Safety Plan for the Protection of the Public" submitted to US EPA for review
Submittal of the OOI-SAP Revision 1 for ODNR review
Response received by Statoil from ODNR Re: Review of OOI-SAP
Submittal of OOI-SAP Revision 2
Review and approval of the OOI-SAP Revision No. 2 by ODNR
Began execution of OOI-SAP with On- and near-pad soil boring field activities
Comments received from US EPA in response to the Draft Work Plan
Data collected by Penn E&R from temporary monitoring wells and piezometers prior to full monitoring well development
Monitoring wells and established CTEH piezometers were developed, groundwater data was collected by Penn E&R
Monitoring wells and piezometers were purged and sampled by Penn E&R
Monitoring well and piezometer locations surveyed
Statoil Well Pad Site (Work Plan) resubmitted addressing comments
Statoil Well Pad Site is conditionally approved with modification and is subject to discussion between US EPA and Statoil

Pending Activity

As part of the work plan submitted to US EPA, following the agency's comments, Statoil proposed to conduct whole effluent toxicity (WET) testing. This testing will provide information on any potential health impacts to the ecosystem related to the pad drainage system. Also pursuant to US EPA recommendations, Statoil proposed to conduct a two-phase biological assessment in the fall of 2015 and the summer of 2016 to evaluate population-level parameters (number, species composition, and size distribution) for fish, crayfish, and benthic macroinvertebrates. This testing will be done in accordance with state-specific biological assessment guidelines and protocols by OEPA (OEPA, 1988; OEPA, 1998; OEPA 2009b), which state that biological survey sampling should be conducted during the summer collection period of June 15 through October 15 for the most representative results.

Future US EPA actions will also include Whole Sediment Toxicity Testing (WSTT) of in 2015 and a series of three (3) surface water sampling events on eleven (11) following the discontinuation of containment activities.

3.0 HEALTH AND SAFETY

During all stages of the investigation, contractors and consultants adhered to the site specific Health and Safety Plan (HASP) developed for site activities. All investigative activities were completed in a safe manner approved by on site Statoil representatives and under the conditions detailed in the HASP. A Job Safety Analysis (JSA) and Ground Disturbance Permit (GDP) were each completed and reviewed in the multi-company Tailgate Safety Meeting held on site prior to commencement of work each day.

4.0 SOIL AND GROUNDWATER SAMPLING METHODOLOGY AND ANALYSIS

Per the approved OOI-SAP, soil samples were collected from the pad area following the removal of the drilling equipment and materials from the pad location. The purpose of this sampling was to characterize the surface and subsurface soils and to evaluate for the presence of potential on-site constituents (POSCs).

The POSCs established for the site were previously defined in the OOI-SAP as a result of the CTEH review and evaluation of the Safety Data Sheets (SDS) for the materials stored on the pad at the time of the incident. During this determination, CTEH evaluated the potential toxic characteristics of each of the compounds identified on the SDS and their potential risk to human health and the environment. CTEH also evaluated the SDS for primary analytes for environmental sampling based on quantity present on-site and environmental toxicity. Additionally, samples were analyzed for the presence of tentatively identified compounds (TICs); i.e., chemicals or compounds that may be present but that are not typically reported by US EPA approved method laboratory analysis. The POSCs developed by CTEH were then presented to and agreed upon by Unified Command. POSCs established for the Eisenbarth Pad on-site investigation are:

- acetone
- pH

- petroleum distillates
    - benzo(a)anthracene
    - benzo(a)pyrene
    - benzo(b)fluoranthene
    - benzo(k)fluoranthene
    - chrysene
    - dibenzo(a, h)anthracene
    - indeno(1,2,3-cd)pyrene
    - benzene
    - toluene
    - ethylbenzene
    - total xylenes
    - naphthalene
- isopropanol (also known as isopropyl alcohol)
- tributyl tetradecyl phosphonium chloride (TTPC)

Each sampling component is a key constituent of a product or material that was present on the pad at the time of the incident. Isopropanol testing was established due to the presence of *GasPerm 1000*, which had been on location at the time of the incident. TTPC is a compound which comprises up to 10% (w/w) of the biocide *BE-9* which was also present. Petroleum distillates would have been on site as *FR-66*, diesel fuel, motor oil, hydraulic oil, and *LGC-36UC*, and other products kept on-site. Levels of pH would be influenced by the acidic nature of flowback waters and hydrochloric acid. Some of the initial samples collected during the response had acetone detections. However, unlike constituents above, no known source of acetone was present on site at the time of the incident. Acetone is considered to be a common by-product of combustion.

Based on CTEH's evaluation and Unified Command's approval, no other potential target analytes or TICs beyond the POSCs listed above were determined to be necessary to adequately evaluate the conditions on the Eisenbarth Pad.

Soil Boring Advancement and Temporary Monitoring Well Installation

Per the OOI-SAP, a renewal of the utility One-Call was performed to confirm the presence or absence of underground public utilities prior to commencement of boring activities. A professionally licensed surveyor marked the proposed soil boring locations using labeled stakes prior to initiation of the onsite investigative activities.

Following utility clearance and the boring stake-out, a Ground Disturbance Permit was reviewed on a daily basis by on-site personnel to evaluate the potential for private, on-site utilities that would not have been identified via a One-Call. As a result of this daily review, several borings located along the southern edge of the site were shifted toward the interior of the pad to avoid impacting the existing pad drainage system. Typically these adjustments were less than ten (10) feet from the originally-proposed locations.

Following utility clearances, the soil borings were advanced utilizing split-spoon and hollow-stem auger techniques. All drilling and sampling equipment were decontaminated prior to the initiation of drilling activities and before mobilizing to the next boring location. Drilling and sampling operations were overseen by a Penn E&R field scientist/geologist as well as observed by Moody field scientists and ODNR representatives. All drilling activities were performed by a licensed drilling contractor (Geo-Environmental, Inc.). To accelerate the investigation schedule, up to two drill rigs were operated concurrently. The drill rigs utilized on site were either Central Mine Equipment Company rigs CME-45 and CME-55, or a Diedrich Drill D-50 rig.

The supervising Penn E&R scientist/geologist prepared boring logs to document the materials encountered during the drilling process, and kept a record of daily field activities at the site. It was estimated in the approved OOI-SAP that the borings would likely be advanced to a total depth no greater than 20 feet below the ground surface (bgs) before bedrock refusal or groundwater was encountered. During the performance of the onsite investigation, however, bedrock or groundwater was encountered at depths of up to 43 feet bgs.

During drilling, continuous split spoon samples were collected, and each two (2) foot split spoon soil sample interval was retrieved from the borehole, opened, examined, screened for the potential presence of volatile organic compounds (VOCs) using a calibrated *MiniRAE 3000* photo-ionization detector (PID), and logged for lithologic characteristics, groundwater occurrence, and evidence of impacts (staining, olfactory, etc.). At a minimum, two (2) soil samples were collected from each boring; one (1) from the surface interval (0 to 2-feet bgs), and one (1) from the interval where the highest PID reading or field indication of potential impact was observed. Copies of the boring logs, which include the lithologic description, sample IDs with depth and time, interval-specific PID readings, split spoon return, and auger blow counts for each interval, are provided in **Appendix A**.

When signs of potential groundwater were encountered in a borehole (i.e., wet or saturated conditions), the boring was converted into a temporary groundwater monitoring well to be utilized for the collection of groundwater samples. Borings that were not converted into temporary monitoring wells were backfilled with bentonite chips. Due to observed presence of water during soil boring advancement, temporary monitoring wells were installed at six (6) boring locations: SB-15, SB-20, SB-21, SB-25, SB-27, and SB-31. The monitoring wells were installed within 6.5-inch diameter boreholes and were constructed with 10 foot sections of 2-inch diameter, 0.10-inch slotted screen, with Type #2 filter pack sand extending a minimum of approximately 2 feet above the top of the screened interval. The well casings were completed with 2-inch diameter PVC casing and were sealed with bentonite from the top of the filter pack to the ground surface. Temporary monitoring well construction details are provided in **Appendix B**.

Prior to groundwater sampling, both the temporary monitoring wells and the existing, accessible piezometers previously installed by CTEH were developed and purged. Groundwater level measurements were obtained by Penn E&R representatives. All monitoring wells were developed in order to remove fine-grained materials from the wells and filter packs.

Prior to sample collection, the wells and piezometers were purged by evacuating either three (3) well volumes or by purging the well or piezometer dry. Field parameters (pH, temperature, and conductivity) were evaluated during the development, purging, and sampling process utilizing an YSI Model 556-01. Purge Logs and field parameter readings are included in **Appendix B** and the sample locations in relation to groundwater flow are detailed on the **Figure 4** groundwater contour map**.** The temporary monitoring wells were constructed and maintained to prevent any potential impacts the subsurface by installing the bentonite seal within the borehole near the ground surface. The temporary monitoring wells and the existing piezometers were sampled at the end of the pad-specific site investigation and remain in place at the time of this SIR. It is anticipated that these wells and piezometers will be properly abandoned in the future to eliminate potential migration pathways.

The final locations of the soil borings, the temporary monitoring wells, and the existing piezometers were professionally surveyed to establish horizontal and vertical points of reference (northings and eastings, and ground surface and top of casing elevations). A summary of the obtained soil boring survey data is provided in **Table 2**, and the locations are identified on **Figure 2**. No additional off-pad sampling beyond that detailed herein was performed as part of this investigation, as previous sampling performed in other off-pad areas did not identify impacts to site soils.

There are six (6) outfalls in the vicinity of the Eisenbarth pad that were examined as part of the investigations, of which two (2) are not associated with pad or slope drainage. The outfall farthest east is associated with a Williams Companies operation, and the outfall to the far west was determined through field observations of on-site engineers to not be associated with any well pad drainage. The outfalls that appeared to have continuous flow without correlating rainfall around the time of the incident were determined to be connected to the subsurface drainage and sump system that was previously installed beneath the Eisenbarth Pad. Due to a historic slope slip at the location, site engineers installed the subsurface drainage system to mitigate the potential for future slips and to control the flow of water in the event that the pad was inundated with a substantial rainfall event over a short period of time. The outfalls with any observable discharge correspond to the following sample location identifiers. The final outfall associated with the Eisenbarth Well Pad (SW-02) has been dry for the duration of monitoring.

"General" Identifier	Sample Location ID	Direction from Pad
• Outfall 1	PD07	West
• Outfall 2	SW24	West
• Outfall 5	PD03	South
• Outfall 6	SW02	South

These outfalls and catch basins have been monitored since June 28, 2014. Statoil has assessed the outfall drainage and has sampled the water from the outfalls and catch basins as deemed necessary.

Sample Analysis

Based on CTEH's evaluation and in accordance with the approved OOI-SAP, the presence or absence of specific POSCs was investigated within the soil and groundwater samples collected at the Eisenbarth

Well Pad. The collected samples were analyzed for the following POSCs utilizing US EPA approved methods:

- Volatile Organic Compounds (VOCs)
  - benzene
  - toluene
  - ethylbenzene
  - acetone
  - total xylenes
- Semi-Volatile Organic Compounds (SVOCs)
  - petroleum distillates
    - benzo(a)anthracene
    - benzo(a)pyrene
    - benzo(b)fluoranthene
    - benzo(k)fluoranthene
    - chrysene
    - dibenzo(a,h)anthracene
    - indeno(1,2,3-cd)pyrene
    - naphthalene
- pH
- Isopropanol
- tributyl tetradecyl phosphonium chloride (TTPC)*

At this time, no US EPA-Approved Method exists for the analysis of tributyl tetradecyl phosphonium chloride (TTPC)*, a compound which comprises up to 10% (w/w) of the biocide BE-9. In response to this incident, two different laboratory methods were developed for the analysis of TTPC in soils and water. The first method, developed by G-Cal, was used during the initial response to the incident. The second method, developed by the EPA, was used for samples in storage (on October 1, 2014) and for the ODNR investigation. Both methods were validated by EDataPro; however, neither has been certified as US EPA-approved methods. SOPs for both methods are available upon request.

Table 3: Analytical Summary

Analyte	Method	Potential Origin
VOCs	US EPA Method 8260	Acetone, petroleum distillates, and diesel fuel
SVOCs	US EPA Method 8270	Petroleum distillates, and diesel fuel
Isopropanol	US EPA Method 8015	Gas Perm 1000
pH	US EPA Method 9045	Flowback waters and hydrochloric acid

As agreed to by Unified Command, citrus extract, terpenes and terpenoids, polyoxyalkylenes, guar gum, and monoethanolamine borate were not specifically analyzed due to the lack of a US EPA approved laboratory analytical method.

Sample Handling Procedures

Immediately following collection and PID screening, samples were placed into sterile, laboratory-supplied containers which were then placed on ice and submitted to an accredited laboratory.

The VOC, SVOC, isopropanol, and pH analyses were performed by ALS Environmental in Holland, Michigan. TTPC analyses were performed by GCAL Analytical Laboratories in Baton Rouge, Louisiana. To protect sample integrity, custody seals were employed on the closure of the sample-containing coolers, and chain-of-custody procedures were documented from the time of sample collection until analysis at the laboratory.

5.0 QUALITY ASSURANCE

Sampling was carried out in conjunction with quality assurance (QA) goals to confirm generation of valid and defensible data.

Instruments used in the field as part of this investigation consisted of PID meters, pH/conductivity meters, GPS units, digital cameras, and hand-held data collection devices such as tablets/smart phones. The PID and pH/conductivity meters were individually calibrated on a daily basis and the calibration information was documented on dedicated equipment calibration forms and in the field log books. The other equipment did not require field calibration.

Field Duplicate Samples

For approximately every twenty (20) samples collected in the field, one (1) field duplicate was collected and submitted for laboratory analysis to verify the reproducibility of the sampling and analytical methods. Field duplicate samples were collected from the locations summarized on **Table 4** and indicated no anomalous or significant fluctuation in the majority of laboratory analytical data between the respective parent and duplicate samples.

Table 4: Field Duplicate Summary

Parent Sample ID	TTPC (µg /Kg)	Duplicate Sample ID	TTPC (µg /Kg)	Sample Matrix
SB-9 2-4’	0.955	DUPE-1	1.04	Soil
SB-22 0-2’	16.2	DUPE-2	70.5	Soil
SB-33 0-2’	2080	DUPE-3	225	Soil
SB-42 0-2’	ND	DUPE-4	0.396	Soil
SB-20	ND	DUPE-5	ND	Groundwater

Two of the soil field duplicates samples analyzed for TTPC did show variation in the results. As referenced in Section 4, Statoil used the method developed by the US EPA for these analyses. TTPC is amphiphilic and binds strongly to plastics and other materials during laboratory analysis. Additionally, due to the nature of TTPC, TTPC may bind differently to variations in soil and lithology, thus influencing results. It should also be noted that laboratory detection levels for these test results are currently measured in parts per trillion, which is well below the parts per billion screening levels calculated.

Field Split Samples

Field split samples were collected in conjunction with Penn E&R by a US EPA representative at select boring locations. Split soil samples were collected from soil borings SB-16, SB-35, and SB-41 at the 0 to 2 foot interval. Split groundwater samples were collected from the temporary monitoring well installed at the SB-31 location. These samples were independently submitted by the US EPA representative for laboratory analysis and the results are in **Table 8**. As of March 10, 2015, Statoil has only received the analytical data for TTPC for the split water samples.

The US EPA analyses for the three (3) split soil samples do not show significant variation from the Penn E&R sample data. The SB-16 location does have SVOC detections in the Penn E&R sample that are not observed in the US EPA samples. However, the detection level utilized by the US EPA (400 µg/kg) was much higher than that of Penn E&R, and the detections observed in the Penn E&R sample were order of magnitudes below this threshold. Some slight variations were noted in the TTPC results. All other analyses indicated no anomalous or significant variation between the Penn E&R and US EPA split samples.

Laboratory QA/QC

Laboratory quality assurance/ quality control (QA/QC) procedures were consistent with the prescribed analytical methods and relevant state and federal regulatory guidance. Internal laboratory quality control procedures included method blanks, matrix spikes/matrix spike duplicates, surrogate samples, calibration standards, and laboratory control standards, all of which are documented in the lab specific Standard Operating Procedures and on the laboratory reports for the respective samples when applicable.

6.0 WASTE DISPOSAL

Investigation derived wastes (IDW) generated during site activities were managed appropriately to comply with applicable local, state, and federal regulations in a manner consistent with the previously generated Statoil-US Waste Management Plan. All IDW (soil cuttings, development/purge water, gloves, sample containers, general refuse, etc.) disposal was managed by the Statoil personnel on-site.

7.0 DATA EVALUATION

To assess the potential environmental impact from the June 2014 well pad incident, all data collected during the OOI-SAP investigation was reviewed in the context of determining the presence/absence of POSCs. The geologic, hydrogeologic, and soil and groundwater data findings follow.

Geologic Data

The Eisenbarth Pad sits in the Allegheny Plateaus physiographic province and is underlain by Permian-Pennsylvanian Age bedrocks according to the Geologic Map of Ohio, published by the ODNR Division of Geologic Survey (2006). More locally, the Marietta Plateau is defined as a dissected, high-relief plateau and generally ranges between 350 feet, to 600 feet near the Ohio River, with mostly fine-grained rocks, red shales, and red soils. The Marietta Plateau is comprised of Pennsylvanian-age Upper Conemaugh Group through the Permian-age Dunkard Group, which consists of continental origin cyclic sequences of red and gray shales, siltstones, sandstones, limestones and coals. Pleistocene (Teays)-age Minford clay, red and brown silty-clay loam colluvium, and landslide deposits are also common.

As part of this investigation, a total of 42 soil borings were advanced at locations across and surrounding the well pad between November 24, 2014 and December 16, 2014. Information obtained during the advancement of the borings as well as records collected during the previous CTEH installation of the existing piezometers was reviewed to evaluate the subsurface conditions at Eisenbarth location. Based on data obtained, it appears that the well pad generally consists of native sedimentary materials that had been cut from the northern hillside and placed as fill on the southern and western portions of the pad. The well pad was then constructed with a relatively thin layer of gravel placed on top of the native fill materials.

The native fill materials generally consisted of disturbed sandy or silty clay materials frequently intermixed with shale or sandstone fragments. Shale bedrock was encountered below the native fill at shallow depths on the northern and eastern portions of the pad, with the depths to bedrock increasing to the west and south. Soil borings were advanced to bedrock or to refusal, and as such the boring depths correspond to the fluctuations in bedrock depth across the pad. Depths of up to 43 feet bgs were obtained prior to encountering bedrock or groundwater in some locations to the western and southern extents of the investigative area.

As the continuous layer of bedrock encountered provides a natural barrier against the migration of any POSCs deeper into the subsurface, the soil borings are expected to be representative of all material that could have potentially been impacted by the June 2014 pad incident. Copies of the boring logs detailing the materials encountered are provided in **Appendix A**; cross-sections of the pad are provided in **Figures 3, 3A, and 3B**.

Hydrogeologic Data

Six (6) of the 42 soil borings exhibited conditions indicating that groundwater may be present. These six (6) borings were converted into temporary monitoring wells (SB-15, SB-20, SB-21, SB-25, SB-27, and SB-31). However, groundwater was present within only four (4) of the six (6) monitoring wells (SB-15,

SB-20, SB-21, and SB-31) during the course of the site investigation. The other locations (SB-25 and SB-27) remained dry throughout the investigation. Due to the relatively shallow depth to bedrock beneath the northern and eastern regions of the pad, groundwater was only encountered in the deeper borings located on the western and southern extents of the pad.

To supplement the hydrogeologic data obtained from the four (4) viable temporary monitoring wells, additional groundwater data was obtained from the twelve (12) 2-inch diameter piezometers previously installed by CTEH at the Eisenbarth Well Pad (GP-1, GP-2, GP-5, GP-8, GP-9, GP-19, GP-21, GP-22, GP-23, GP-24, GP-26, and GP-28). Groundwater data was obtained from eight (8) of the twelve (12) piezometers; two (2) locations were dry (GP-5 and GP-21) and two (2) had damaged casings preventing access (GP-2 and GP-9). A summary of the information collected from the temporary monitoring wells and piezometers is provided in **Table 5**.

Data collected from temporary monitoring wells and piezometers indicates that, depending on the location, groundwater was encountered during drilling at depths ranging from approximately 14- to 40-feet bgs, with static depths to groundwater being measured between 20- to 31-feet bgs. Groundwater elevations were calculated and flow directions estimated utilizing depth to water measurements.

In this hydrogeologic setting, the piezometric surface of the unconfined aquifer generally conforms to surface topography, being highest beneath hilltops and lowest in valleys, where it commonly intersects the land surface and contributes flow to the local streams. The recharge areas of the unconfined aquifer are situated along hilltops and valley walls and discharge areas are within valley bottoms. In general, groundwater at the Eisenbarth location appears to flow to the west to an unnamed tributary of Opossum Creek from the western portion of the pad and to the south from the southern portion of the pad. This apparent drainage divide is not unexpected as it mimics the topography of the well pad construction. These probable drainage pathway areas were focal points of investigative efforts, and data collected reflect no ongoing adverse impacts that can be tied to the June 2014 incident. A groundwater contour map is provided as **Figure 4**.

Soil and Groundwater Analytical Data

Following receipt of the laboratory data, quality results were compared to established screening and action levels. Soil levels were developed primarily from the Ohio Environmental Protection Agency (OEPA) Industrial and Commercial criteria found in Ohio's Voluntary Action Program (VAP) (OAC 3745-300-08), and water screening criteria were confirmed through a comparison to the US EPA National Drinking Water Standards (DWS). A screening level of 1 ppb (part per billion) was suggested by the US EPA for use in the analysis and evaluation of TTPC in groundwater samples. This TTPC level was based upon the potential adverse impacts in surface water to be 11 ppb, with an uncertainty factor of 10 applied. Translated for laboratory reporting of groundwater concentrations, this limit equates to 1 µg/L. CTEH toxicologists then applied a formula established by the US EPA that takes into account TTPC's binding affinity for soil, geared towards what level in sediment and soils would potentially cause a detection level of 1 ppb (or 1 µg/L) in surface waters. This level has been established as the TTPC action level for soil samples.

Of important note is that, during US EPA investigative activity, TTPC has been detected in upstream, background tributaries that were not involved in the Ohio Operations Incident. Additionally, multiple locations have shown sporadic detections of TTPC in surface water and sediment, as demonstrated below. Due to the potential use of TTPC as an anti-algae compound in re-circulatory water systems, it is extremely likely that TTPC is being or has historically been used in the local area.

Sample Date	Location	Relation to Location	TTPC Result	Units
• 06-Jul-14	SW23	Trib Upstream of Pad Drainage (South)	20.7	µg/L
• 15-Jul-14	SW15	Unassociated Trib to North	9.16	µg/L
• 15-Jul-14	SW15 (DUP)	Unassociated Trib to North	2.44	µg/L
• 13-Aug-14	SW23	Trib Upstream of Pad Drainage (South)	18.3	µg/L
• 21-Jul-14	SW11	Unassociated Trib to East	219000	µg /Kg
• 13-Aug-14	SW23	Trib Upstream of Pad Drainage (South)	2.58	µg /Kg

Additionally, TTPC was detected in background soil sampling locations. Borings SB-1 through 5 are considered to be "background" sampling locations because they are located either just off the pad or on the pad edges and in areas not directly affected by the incident (i.e., nothing was burned in these areas, no water was released in these areas). TTPC was identified in the surface intervals in all of these locations with the exception of SB-4 and SB-5 (**Table 6**).

- *Soils*

None of the soil samples collected at any of the borings exceeds the OEPA Industrial/Commercial program action levels. All TTPC detections were orders of magnitude below the established action level, and have been confined to the upper four feet of soils on the pad location with the exception of eight (8) *de minimus* detections; four (4) detections at four (4) to six (6) foot intervals, two (2) detections at eight (8) to ten (10) foot intervals, one (1) at a 12 to 14 foot interval, and one (1) detection at a 28 to 30 foot interval. TTPC shows no signs of migration since the June 2014 event. These few trace detections below ground surface (4 feet in depth) are not representative of subsurface conditions, given the significant variability displayed in TTPC duplicate samples in relation to the parent samples, the multiple detections of TTPC in background samples, and the hydrogeologic unlikelihood of TTPC to migrate through soils via groundwater given its innate tendency to bind to soils. Any *de minimis* detections of TTPC are unlikely to be a result of the June 2014 pad incident.

While a screening level was developed based on potential impact to surface water, it is known that TTPC strongly adsorbs to soils and would therefore not be expected to easily migrate to shallow groundwater or migrate via runoff, as is evidenced by the lack of corresponding TTPC levels in groundwater samples. As confirmed by Ph.D.-level Toxicologists at CTEH, levels of TTPC in the ppb (or µg/kg) concentration range in soils do not cause TTPC levels in groundwater in exceedance of the 1 µg/L established screening level. Since this is therefore not a screening level exceedance no further follow-up is needed. Also, at lower concentrations TTPC can degrade rapidly to tetrabutyl phosphonium chloride (TBPC), which has much lower aquatic toxicity than TTPC. As such, risks to the aquatic environment and groundwater at these residual levels in the subsurface soils are deemed to be minimal.

Isopropyl alcohol was non-detect in all soil boring samples analyzed. Acetone was not detected in soils above 65 ppb (µg/kg), with the exception of one soil sample that was presented in the laboratory analysis report with a "J" qualifier indicating that the reported result is below limits of quantitation, a condition which degrades result validity. Even if considered to be valid, the outlier result of 620 "J" µg/kg of acetone is still so statistically far below the conservative screening level of 2,500 µg/kg (and the OEPA action level of 110,000,000 µg/kg) as to be considered *de minimus*.

No other soil parameters exceeded OEPA Industrial/Commercial action levels during the sampling events conducted.

- *Groundwater*

The pH level for the groundwater sample location GP-26 was detected below the DWS range (6.5 – 8.5 S.U.), at 6.2 S.U., during laboratory analysis. This DWS range for pH was established for potable, public water supplies; a detection of pH at 6.2 S.U. in a non-potable groundwater sampling station (with noted weathered shale in the soil boring log) is within the normal and expected range.

Drinking Water Standards were chosen as a screening level for groundwater investigations. Other than a slight variation in pH (GP-26), a non-potable well, no other parameters exceeded screening levels. TTPC and isopropyl alcohol were non-detect in all groundwater quality samples, and acetone was non-detect or detected below limits of quantitation in all groundwater samples collected. No water quality samples show any elevated parameters above action levels.

8.0 CONCLUSIONS

In summary, soil and groundwater samples indicate no presence of POSCs above screening and action levels. Soil samples show such strong declinations from pre-remedial site conditions to the point where, when results are compared to applicable action and screening levels, there is no evidence of migration or long term, continual impact. Based on the results of this comparison, it is apparent that conditions at the site are naturally attenuating and that there are no impacts to the soil, stream, sediment, or water from the POSCs. Therefore, no further on-site remedial action in relation to this investigation is warranted.

Additional samples that are scheduled to be collected and analyzed will be submitted to ODNR as addendums to this SIR. Investigative activity under the US EPA work plan is scheduled to continue through 2016.

The results of the laboratory analysis are summarized in **Tables 6 and 7**; laboratory reports are provided as **Appendix C**.

Figures

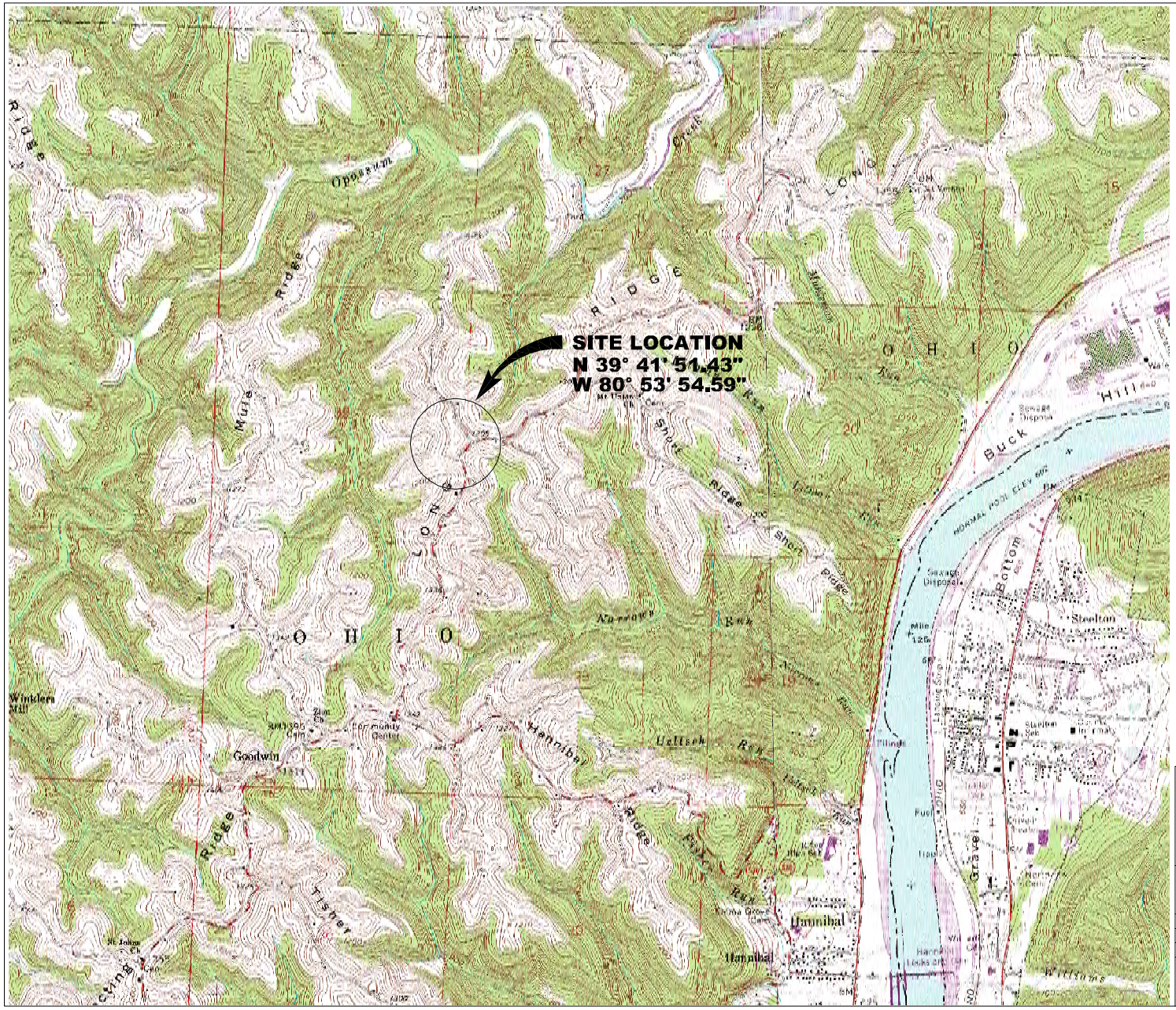


FIGURE 1

SITE LOCATION MAP

HANNIBAL, OHIO

PREPARED FOR

STATOIL

APPROVED	CMH	08/XX/14
CHECKED	XXX	XX/XX/14
DRAWN	MFR	08/07/14

DRAWING NUMBER

NM006484-01

Penn E&R

Environmental & Remediation, Inc.

LEGEND

- SB-_ COMPLETED SAMPLE LOCATION
  - SURFACE ELEVATION 'G'
  - BOTTOM OF BORING ELEVATION 'B'
- SB-_ MONITOR WELL LOCATION
  - GROUNDWATER ELEVATION 'DTW'
  - TOP OF CASING 'TC'
  - SURFACE ELEVATION 'G'
  - BOTTOM OF BORING ELEVATION 'B'
- GP-_ PIEZOMETER LOCATION
  - GROUNDWATER ELEVATION 'DTW'
  - TOP OF CASING 'TC'

NORTH

SAMPLING DATE	SAMPLES
11/24/2014	SB-1, SB-2
11/25/2014	SB-3 thru SB-8
12/03/2014	SB-9 thru SB-15
12/04/2014	SB-16, SB-17
12/05/2014	SB-17, SB-18
12/08/2014	SB-19, SB-20, SB-21
12/09/2014	SB-21 thru SB-24
12/10/2014	SB-23 thru SB-27
12/11/2014	SB-27 thru SB-32
12/12/2014	SB-31, SB-32
12/15/2014	SB-33 thru SB-40
12/16/2014	SB-41, SB-42

SCALE – FEET

0 100 200 300

EISENBARTH WELL PAD SITE

FIGURE 2
DRILLING/SAMPLING LOCATION MAP

HANNIBAL, OHIO

PREPARED FOR

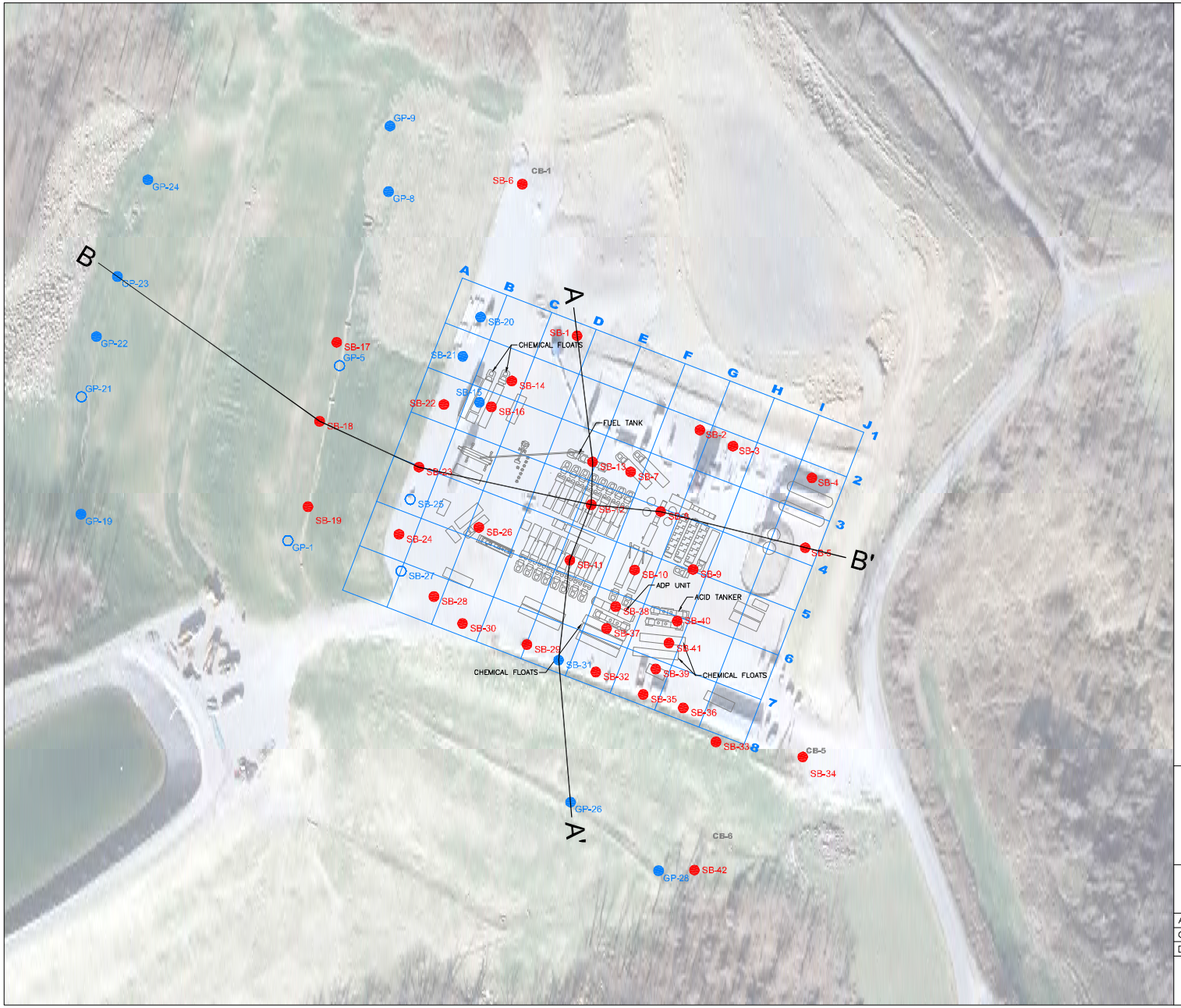
STATOIL USA ONSHORE PROPERTIES INC.
HOUSTON, TEXAS

APPROVED	MSK 1/13/15
CHECKED	MSK 1/13/15
DRAWN	AMC 1/13/15

DRAWING NUMBER

NM006484-01

Penn E&R
Environmental & Remediation, Inc.



LEGEND

- SB-_ COMPLETED SAMPLE LOCATION
- SB-_ MONITOR WELL LOCATION
- GP-_ PIEZOMETER LOCATION
- A–A' CROSS–SECTION LINE

NORTH

SCALE – FEET

0 100 200 300

EISENBARTH WELL PAD SITE

FIGURE 3
CROSS-SECTION MAP

HANNIBAL, OHIO

PREPARED FOR

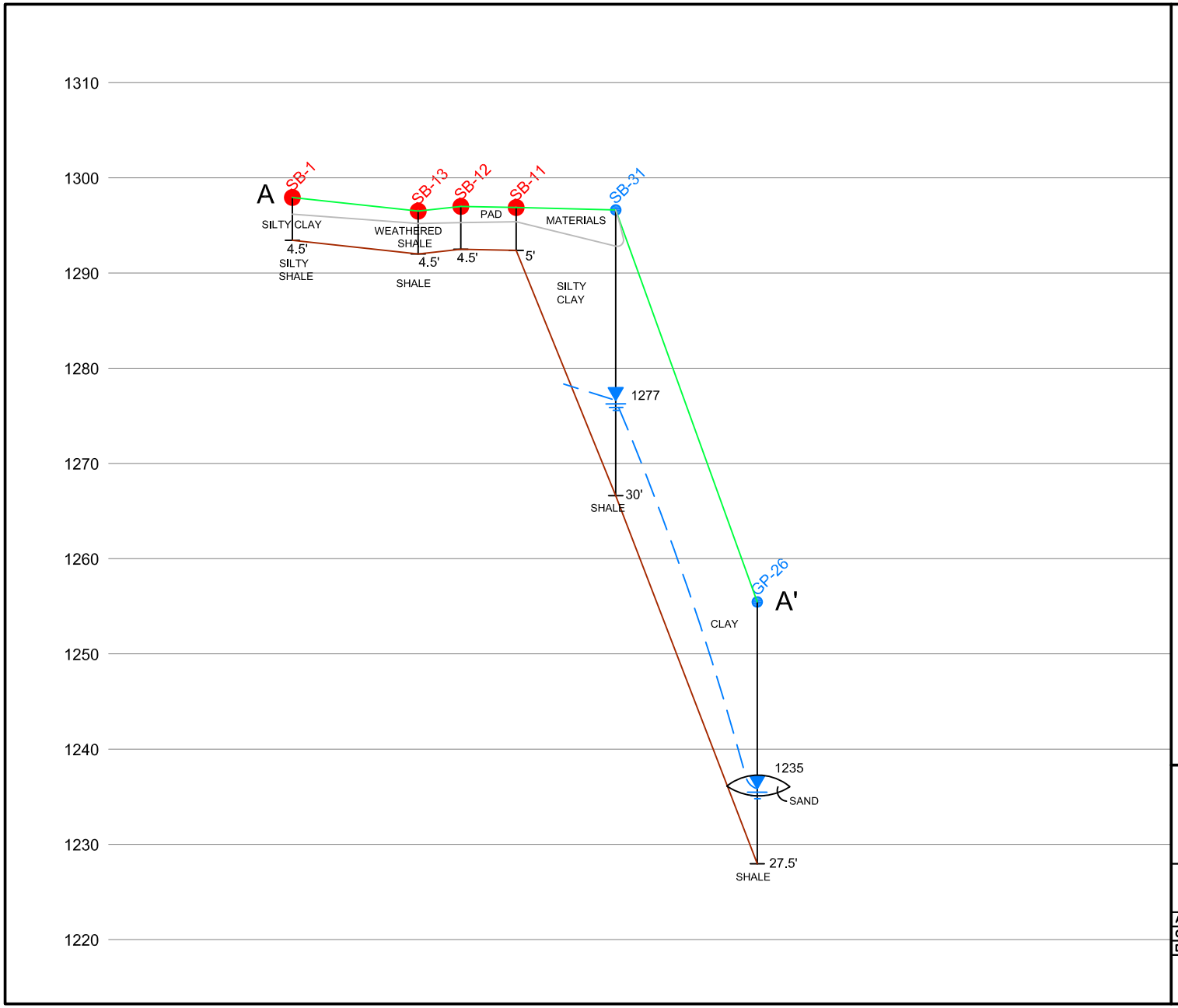
STATOIL USA ONSHORE PROPERTIES INC.
HOUSTON, TEXAS

APPROVED	CMH 1/21/15
CHECKED	CMH 1/21/15
DRAWN	AMC 1/21/15

DRAWING NUMBER

NM006484-03

Penn E&R
Environmental & Remediation, Inc.



LEGEND

SB-11

4.5'

BORING LOCATION WITH DEPTH

GROUNDWATER ELEVATION

SURFACE

GROUNDWATER

DEPTH OF REFUSAL

1"=10' VERTICAL SCALE
1"=100' HORIZONTAL SCALE

EISENBARTH WELL PAD SITE

FIGURE 3A
CROSS SECTION A-A'

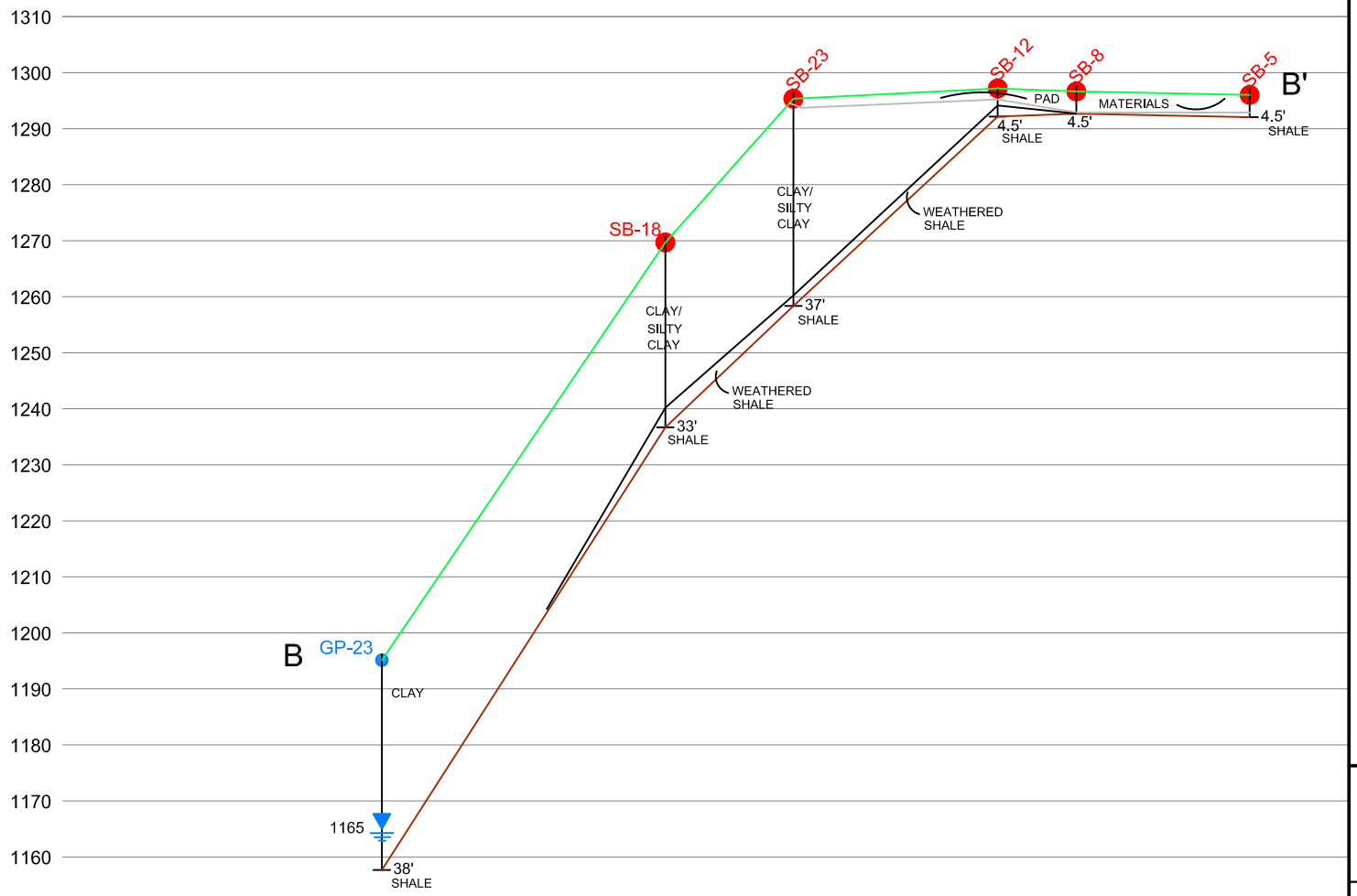
HANNIBAL, OHIO

PREPARED FOR
STATOIL USA ONSHORE PROPERTIES INC.
HOUSTON, TEXAS

APPROVED	CMH 1/21/15
CHECKED	CMH 1/21/15
DRAWN	AMC 1/21/15

DRAWING NUMBER
NM006484-03A

Penn E&R
Environmental & Remediation, Inc.



LEGEND

SB-11

4.5'

BORING LOCATION WITH DEPTH

GROUNDWATER ELEVATION

SURFACE

WEATHERED SHALE

DEPTH OF REFUSAL

1"=20' VERTICAL SCALE
1"=100' HORIZONTAL SCALE

EISENBARTH WELL PAD SITE

FIGURE 3B
CROSS SECTION B-B'

HANNIBAL, OHIO

PREPARED FOR

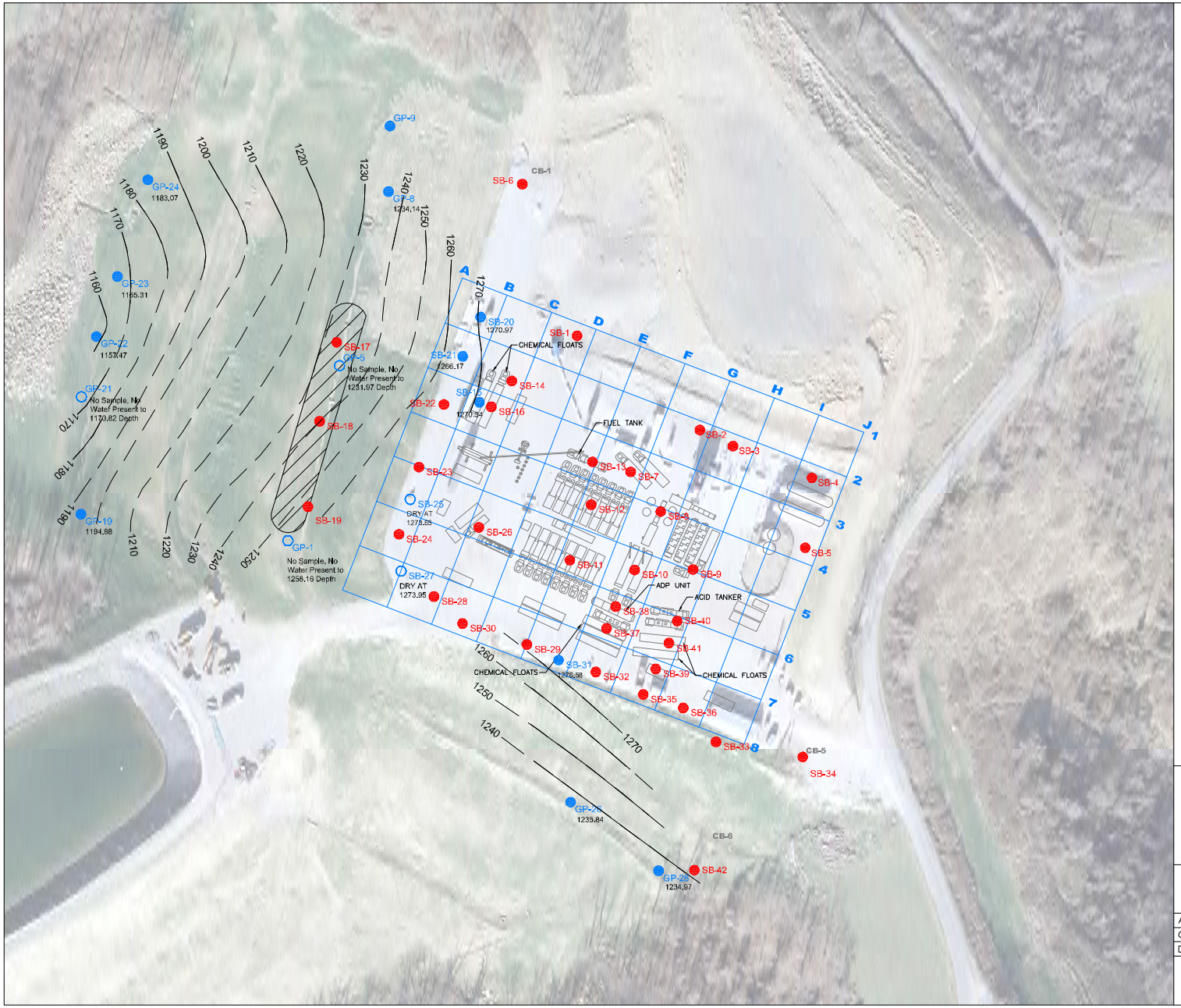
STATOIL USA ONSHORE PROPERTIES INC.
HOUSTON, TEXAS

APPROVED	CMH 1/21/15
CHECKED	CMH 1/21/15
DRAWN	AMC 1/21/15

DRAWING NUMBER

NM006484-03B

Penn E&R
Environmental & Remediation, Inc.



LEGEND

- SB-_ COMPLETED SAMPLE LOCATION
- SB-_ MONITOR WELL LOCATION GROUNDWATER ELEVATION
- SB-25 DRY LOCATION
- GP-_ PIEZOMETER LOCATION GROUNDWATER ELEVATION
- GP-21 DRY LOCATION

1250 GROUNDWATER ELEVATION (DASHED WHERE INFERRED)

NORTH

SOIL SAMPLING DATE	SAMPLES
11/24/2014	SB-1, SB-2
11/25/2014	SB-3 thru SB-8
12/03/2014	SB-9 thru SB-15
12/04/2014	SB-16, SB-17
12/05/2014	SB-17, SB-18
12/08/2014	SB-19, SB-20, SB-21
12/09/2014	SB-21 thru SB-24
12/10/2014	SB-23 thru SB-27
12/11/2014	SB-27 thru SB-32
12/12/2014	SB-31, SB-32
12/15/2014	SB-33 thru SB-40
12/16/2014	SB-41, SB-42

GROUNDWATER DATA COLLECTED 12/16/2014

SCALE – FEET

0 100 200 300

EISENBARTH WELL PAD SITE

FIGURE 4
GROUNDWATER CONTOUR MAP

HANNIBAL, OHIO

PREPARED FOR

STATOIL USA ONSHORE PROPERTIES INC.
HOUSTON, TEXAS

APPROVED	MSK 1/22/15
CHECKED	MSK 1/22/15
DRAWN	AMC 1/22/15

DRAWING NUMBER

NM006484-02

Penn E&R
Environmental & Remediation, Inc.

Tables

STATOIL USA ONSHORE PROPERTIES INC.

EISENBARTH PAD SITE SURVEY DATA

TABLE 2

Obtained: Thursday, December 18, 2014

Location ID	Northing	Easting	Latitude	Longitude	Elevation
sb-01	622518.956	2419059.111	39°41'53.57"N	80°53'55.24"W	1297.928
sb-02	622420.247	2419187.673	39°41'52.57"N	80°53'53.62"W	1296.308
sb-03	622403.446	2419222.325	39°41'52.40"N	80°53'53.18"W	1295.922
sb-04	622370.088	2419305.066	39°41'52.06"N	80°53'52.13"W	1296.823
sb-05	622296.971	2419297.94	39°41'51.33"N	80°53'52.23"W	1296.047
sb-06	622677.853	2419001.699	39°41'55.15"N	80°53'55.94"W	1295.545
sb-07	622376.359	2419115.099	39°41'52.15"N	80°53'54.56"W	1296.754
sb-08	622334.954	2419146.672	39°41'51.74"N	80°53'54.16"W	1296.649
sb-09	622274.324	2419180.507	39°41'51.13"N	80°53'53.74"W	1296.113
sb-10	622273.797	2419119.329	39°41'51.14"N	80°53'54.52"W	1296.811
sb-11	622283.878	2419051.615	39°41'51.25"N	80°53'55.39"W	1296.876
sb-12	622342.022	2419073.951	39°41'51.82"N	80°53'55.09"W	1296.99
sb-13	622386.815	2419075.331	39°41'52.26"N	80°53'55.06"W	1296.51
sb-14	622471.582	2418990.87	39°41'53.11"N	80°53'56.12"W	1296.616
sb-15	622449.319	2418956.987	39°41'52.90"N	80°53'56.56"W	1298.053
sb-16	622444.471	2418969.322	39°41'52.85"N	80°53'56.41"W	1296.272
sb-17	622512.22	2418807.521	39°41'53.55"N	80°53'58.46"W	1263.155
sb-18	622429.319	2418789.642	39°41'52.73"N	80°53'58.71"W	1269.695
sb-19	622339.967	2418777.418	39°41'51.85"N	80°53'58.88"W	1273.919
sb-20	622538.509	2418958.156	39°41'53.78"N	80°53'56.53"W	1295.528
sb-21	622497.43	2418939.435	39°41'53.38"N	80°53'56.78"W	1295.556
sb-22	622447.048	2418919.699	39°41'52.88"N	80°53'57.04"W	1295.765
sb-23	622381.413	2418893.511	39°41'52.24"N	80°53'57.39"W	1295.349
sb-24	622311.008	2418872.644	39°41'51.55"N	80°53'57.67"W	1296.269
sb-25	622347.643	2418884.509	39°41'51.91"N	80°53'57.51"W	1296.105
sb-26	622318.292	2418956.363	39°41'51.60"N	80°53'56.60"W	1296.671
sb-27	622272.518	2418874.974	39°41'51.17"N	80°53'57.65"W	1297.067
sb-28	622245.85	2418909.378	39°41'50.90"N	80°53'57.22"W	1296.876
sb-29	622195.619	2419006.722	39°41'50.38"N	80°53'55.98"W	1296.942
sb-30	622217.678	2418939.288	39°41'50.61"N	80°53'56.84"W	1297.048
sb-31	622179.29	2419039.797	39°41'50.22"N	80°53'55.56"W	1296.616
sb-32	622166.951	2419078.735	39°41'50.09"N	80°53'55.07"W	1296.455
sb-33	622093.718	2419204.506	39°41'49.34"N	80°53'53.48"W	1293.915
sb-34	622077.826	2419295.304	39°41'49.17"N	80°53'52.32"W	1293.06
sb-35	622143.378	2419128.445	39°41'49.85"N	80°53'54.44"W	1295.959
sb-36	622129.335	2419170.306	39°41'49.70"N	80°53'53.91"W	1295.994
sb-37	622212.366	2419089.917	39°41'50.53"N	80°53'54.92"W	1296.949
sb-38	622235.303	2419099.515	39°41'50.76"N	80°53'54.79"W	1296.701
sb-39	622170.021	2419141.465	39°41'50.11"N	80°53'54.27"W	1296.061
sb-40	622220.324	2419163.916	39°41'50.60N	80°53'53.97"W	1296.346
sb-41	622197.131	2419155.303	39°41'50.37"N	80°53'54.08"W	1296.147
sb-42	621959.498	2419181.883	39°41'48.02"N	80°53'53.80"W	1251.135
gp-01	622304.494	2418756.383	39°41'51.50"N	80°53'59.16"W	1274.795
gp-02	622358.105	2418786.802	39°41'52.03"N	80°53'58.76"W	1272.493
gp-05	622487.643	2418810.421	39°41'53.30"N	80°53'58.43"W	1263.475
gp-08	622670.025	2418861.701	39°41'55.10"N	80°53'57.73"W	1253.397
gp-09	622738.675	2418863.254	39°41'55.77"N	80°53'57.70"W	1260.251
gp-19	622332.094	2418539.714	39°41'51.81"N	80°54'01.93"W	1214.705
gp-21	622455.114	2418540.375	39°41'53.03"N	80°54'01.89"W	1200.516
gp-22	622518.139	2418555.953	39°41'53.65"N	80°54'01.68"W	1196.58
gp-23	622581.058	2418577.868	39°41'54.27"N	80°54'01.38"W	1195.143
gp-24	622682.288	2418609.783	39°41'55.26"N	80°54'00.95"W	1197.003
gp-26	622030.644	2419052.282	39°41'48.75"N	80°53'55.44"W	1255.451
gp-28	621958.766	2419144.408	39°41'48.02"N	80°53'54.28"W	1245.061

TABLE 5

Statoil USA Onshore Properties, Inc.

EISENBARTH PAD GROUNDWATER DATA SUMMARY

General Data					Pre-Development Data (12-12-14)			Post-Development Data (12-16-14)		Purge and Sample Data			
Location ID	Monitoring Point Type	Ground Surface Elevation (ft-msl)	TOC Elevation (ft-msl)	Monitoring Point Depth (ft-bgs)	Depth to Water at Installation (Boring Logs) (ft -bgs)	Depth to Water (Below TOC)	Groundwater Elevation (ft-msl)	Depth to Water (Below TOC)	Groundwater Elevation (ft-msl)	Measurement Date (Time)	Depth to Water (Below TOC)	Groundwater Elevation (ft-msl)	Comments
SB-15	Temporary Monitoring Well	1298.05	1298.78	30.10	~26	30.08	1268.70	28.44	1270.34	12/18/14 (13:40)	28.44	1270.34	Installed on pad
SB-20	Temporary Monitoring Well	1295.53	1297.20	40.00	~36	25.52	1271.68	26.23	1270.97	12/18/2014	24.86	1272.34	Installed on western edge of pad
SB-21	Temporary Monitoring Well	1295.56	1297.70	35.00	~30	31.52	1266.18	31.53	1266.17	12/18/14 (13:05)	31.36	1266.34	Installed on western edge of pad
SB-25	Temporary Monitoring Well	1296.10	1297.20	23.55	~20	Dry	<1273.65	Dry	<1273.65	12/18/2014	Dry	<1273.65	Installed on western edge of pad
SB-27	Temporary Monitoring Well	1297.07	1299.30	25.35	~18	Dry	<1273.95	Dry	<1273.95	12/18/2014	Dry	<1273.95	Installed on southwestern corner of pad
SB-31	Temporary Monitoring Well	1296.62	1297.23	30.15	~20	NM	NA	20.65	1276.58	12/18/2014	21.24	1275.99	Southern edge of pad, completed after 12-1H-14
GP-1	Piezometer	1274.80	1277.66	19.50	Dry	Dry	<1258.16	Dry	<1258.16	12/17/2014	Dry	<1258.16	Installed on western slope of pad
GP-2	Piezometer	1272.49	NA	NA	NA	NA	NA	NA	NA	12/17/2014	NA	NA	Casing crushed, could not access
GP-5	Piezometer	1263.47	1266.07	34.10	Dry	Dry	< 1231.97	Dry	< 1231.97	12/17/2014	Dry	< 1231.97	Dry - no water present during measurement
GP-8	Piezometer	1253.40	1256.55	26.48	~21	22.45	1234.10	22.41	1234.14	12/17/14 (12:45)	22.41	1234.14	Installed on western slope of pad
GP-9	Piezometer	1260.25	NA	NA	NA	NA	NA	NA	NA	12/17/2014	NA	NA	Casing crushed, could not access
GP-19	Piezometer	1214.70	1216.77	24.99	~18	19.45	1197.32	21.89	1194.88	12/17/14 (12:15)	23.20	1193.57	Installed on western slope of pad
GP-21	Piezometer	1200.52	NM	29.70	Dry	Dry	NA	Dry	NA	12/17/2014	Dry	NA	Dry - no water present during measurement
GP-22	Piezometer	1196.58	1198.10	41.69	NM	NM	NA	40.63	1157.47	12/17/14 (10:55)	41.03	1157.07	Installed on western slope of pad
GP-23	Piezometer	1195.14	1196.71	39.46	NM	31.55	1165.16	31.4	1165.31	12/17/14 (10:00)	34.51	1162.20	Installed on western slope of pad
GP-24	Piezometer	1197.00	1199.71	24.75	NM	16.58	1183.13	16.64	1183.07	12/17/14 (09:15)	18.73	1180.98	Installed on western slope of pad
GP-26	Piezometer	1255.45	1258.22	29.55	NM	23.22	1235.00	22.38	1235.84	12/17/14 (08:10)	22.53	1235.69	Installed on southern slope of pad
GP-28	Piezometer	1245.06	1249.34	14.66	NM	14.23	1235.11	14.37	1234.97	12/17/14 (08:05)	14.66	1234.68	Minimal water present during measurement

NA - Not Applicable

NM - Not Measured

ft-msl - Feet Above Mean Sea Level

ft - bgs - Feet Below Ground Surface

toc - Top of Casing

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-1 0'-2'	SB-1 2'-4'	SB-2 0'-2'	SB-2 4'-6'	SB-3 0'-2'	SB-4 0'-2'	SB-4 2'-4'	SB-5 0'-2'	SB-5 2'-4'	SB-6 0'-2'	SB-6 24'-26'	SB-7 0'-2'	SB-7 4'-6'	SB-8 0'-2'	SB-8 4'-6'	SB-9 0'-2'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	11/24/14	11/24/14	11/24/14	11/24/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	11/25/14	12/03/14
Potential On-Site Constituents (POSCs)	USEPA Region 5 RCRA (µg/kg)	OEPA Industrial / Commercial (µg/kg)	Units	Collection Time	13:50	14:25	14:45	15:10	8:41	9:41	9:51	10:23	10:37	11:30	13:25	14:55	15:15	15:30	15:40	10:32
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	8.6	ND	15	ND	6.2 J	ND	8.9
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	24	ND	28	ND	ND	ND	ND
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	24	ND	ND	ND	ND
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	17	ND	ND	ND	ND
chrysene	4,730	5,800,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	5.9 J	ND	13	ND	3.8 J	ND	5.2 J
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	20	ND	ND	ND	ND
Acetone	2,500	110,000,000	µg/Kg-dry		31	16	13	13	21	18	10	21	14	43	15	29	9.2 J	20	9.7 J	9.3 J
Benzene	255	140,000	µg/Kg-dry		8.3	13	4.1 J	0.46 J	8.7	1.6 J	1.6 J	1.8 J	2.3 J	13	30	4.3 J	1.1 J	1.8 J	0.43 J	ND
Toluene	5,450	820,000	µg/Kg-dry		7.2	8.1	1.1 J	ND	3.5 J	1.7 J	0.71 J	2.7 J	0.80 J	12	12	6.7	1.3 J	3.6 J	0.43 J	0.66 J
Ethylbenzene	5,160	480,000	µg/Kg-dry		1.4 J	2.6 J	0.20 J	ND	0.76 J	0.32 J	ND	0.44 J	ND	1.8 J	3.3 J	1.4 J	0.24 J	0.92 J	ND	ND
xylenes	10,000	260,000	µg/Kg-dry		3.2 J	3.6 J	ND	ND	1.3 J	1.1 J	ND	1.5 J	ND	4.5 J	5.3 J	4.6 J	1.0 J	2.1 J	ND	ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		0.22 J	0.33 J	ND	ND	0.26 J	ND	ND	ND	ND	0.29 J	0.42 J	0.25 J	ND	ND	ND	ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH (Laboratory)	N/A	N/A	s.u.		7.8	7.9	8.3	8.3	8.2	8.7	9	9	8.9	8.0	7.9	8.2	8.2	8.3	8.2	8.6
TTPC	N/A	859,330	µg/Kg		39.7	ND	0.286	ND	0.812	ND	ND	ND	ND	2.65	ND	26.4	5.42	52.2	ND	39.0
PID	N/A	N/A	ppm		0.5	0.6	0.4	1.0	0.2	0.3	0.6	0.4	0.4	0.3	1	0.5	0.5	0.7	0.2	0.4

J = Detected above method limit but below the limit of quantitation
NA - Not Applicable
NT - Not Applicable/Not Tested
ND = Not Detected above method limit
Detected above screening or action level

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-9 2'-4'	SB-9 2'-4' DUPE-1	SB-10 0'-2'	SB-10 2'-4'	SB-11 0'-2'	SB-11 2'-4'	SB-12 0'-2'	SB-12 2'-4'	SB-13 0'-2'	SB-13 4'-6'	SB-14 0'-2'	SB-14 2'-4'	SB-15 2'-4'	SB-15 26'-28'	SB-15 28'-30'	SB-16 0'-2'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/03/14	12/04/14	12/05/14	12/04/14
Potential On-Site Constituents (POSCs)	**USEPA Region 5 RCRA (µg/kg)**	**OEPA Industrial / Commercial (µg/kg)**	**Units**	**Collection Time**	**10:37**	**10:37**	**11:05**	**11:20**	**12:40**	**12:50**	**13:30**	**13:45**	**14:25**	**14:40**	**15:15**	**15:35**	**17:50**	**9:15**	**9:25**	**11:15**
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		ND	8.6	ND	ND	9.6	ND	ND	28	10	ND	ND	ND	ND	11		16
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	12	ND	ND	11	ND	ND	30	ND	ND	ND	ND	ND	12		13
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	9.6	ND	ND	11	ND	ND	39	ND	ND	ND	ND	ND	15		14
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	5.5 J	ND	ND	6.0 J	ND	ND	19	ND	ND	ND	ND	ND	6.0 J		5.5 J
chrysene	4,730	5,800,000	µg/Kg-dry		ND	4.1 J	ND	ND	5.0 J	ND	ND	21	5.5 J	ND	ND	ND	ND	6.4 J		7.8 J
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	6.2 J	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND		ND
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	11	ND	ND	14	ND	ND	26	ND	ND	ND	ND	ND	13		10
Acetone	2,500	110,000,000	µg/Kg-dry		ND	ND	12 J	2.9 J	ND	10 J	ND	6.3 J	ND	ND	ND	3.9 J	20	11		ND
Benzene	255	140,000	µg/Kg-dry		ND	ND	ND	0.26 J	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
Toluene	5,450	820,000	µg/Kg-dry		0.30 J	0.25 J	0.99 J	0.72 J	0.43 J	0.70 J	ND	0.28 J	ND	0.40 J	25 J	0.42 J	0.35 J	0.43 J		ND
Ethylbenzene	5,160	480,000	µg/Kg-dry		ND	ND	ND	0.20 J	ND	ND	ND	ND	ND	ND	14 J	ND	ND	ND		ND
xylenes	10,000	260,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
pH (Laboratory)	N/A	N/A	s.u.		8.7	8.7	8.3	8.3	8.3	8.3	8.3	8.6	8.6	8.3	8.4	8.2	8.1	8.3		8.4
TTPC	N/A	859,330	µg/Kg		0.955	1.04	113.0	11.8	78.30	N/A	16.30	0.757	12.0	0.413	23.40	3.57	13.7	ND		720.0
PID	N/A	N/A	ppm		0.6	NT	1.5	0.6	1.4	0.2	0.8	0.4	0.7	1.1	2.0	0.7	ND	NT	ND	1.2

J = Detected above method limit but below the limit of quantitation

NA - Not Applicable

NT - Not Applicable/Not Tested

ND = Not Detected above method limit

Detected above screening or action level

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-16 8'-10'	SB-17 0'-2'	SB-17 26'-28'	SB-18 0'-2'	SB-18 32'-34'	SB-19 0'-2'	SB-19 2'-4'	SB-20 0'-2'	SB-20 32'-34'	SB-21 0'-2'	SB-21 10'-12'	SB-22 0'-2'	SB-22 6'-8'	SB-22 0'-2' DUPE-2	SB-23 0'-2'	SB-23 18'-20'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	12/04/14	12/04/14	12/04/14	12/05/14	12/05/14	12/08/14	12/08/14	12/08/14	12/08/14	12/08/14	12/08/14	12/09/14	12/09/14	12/09/14	12/09/14	12/10/14
Potential On-Site Constituents (POSCs)	**USEPA Region 5 RCRA (µg/kg)**	**OEPA Industrial / Commercial (µg/kg)**	**Units**	**Collection Time**	**11:42**	**15:15**	**17:20**	**11:20**	**13:50**	**8:05**	**8:20**	**9:45**	**12:25**	**15:24**	**16:15**	**9:40**	**10:45**	**9:40**	**14:35**	**13:15**
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		8.8	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	10	ND	13	ND	65
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	46
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	65
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	29
chrysene	4,730	5,800,000	µg/Kg-dry		5.3 J	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	20	ND	19	ND	58
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	15
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	33
Acetone	2,500	110,000,000	µg/Kg-dry		20	40	36	50	12 J	ND	ND	65	19	20	8.9	29	13	23	3.1 J	20
Benzene	255	140,000	µg/Kg-dry		2.8 J	13	44	8.8	22	ND	ND	3.4 J	49	5.7	3.2	2.4 J	2.2 J	2.8 J	ND	ND
Toluene	5,450	820,000	µg/Kg-dry		1.3 J	7.6	18	4.6 J	11	0.29 J	0.52 J	1.8 J	26	2.8 J	1.2 J	4.6 J	0.78 J	4.4 J	0.39 J	0.33 J
Ethylbenzene	5,160	480,000	µg/Kg-dry		0.26 J	2.0 J	4.1 J	1.0 J	3.0 J	ND	ND	0.37 J	5.4	0.60 J	0.21 J	1.3 J	ND	0.95 J	ND	ND
xylenes	10,000	260,000	µg/Kg-dry		ND	3.0 J	7.5	2.0 J	4.2 J	ND	ND	ND	13	0.96 J	ND	2.7 J	ND	2.1 J	ND	ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		ND	0.22 J	0.59 J	ND	0.35 J	ND	ND	ND	0.75 J	ND	ND	ND	ND	ND	ND	ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH (Laboratory)	N/A	N/A	s.u.		7.8	7.1	8.3	7.6	8.1	7.6	7.6	7.6	7.9	7.5	7.8	8.4	8.1	8.3	8	7.8
TTPC	N/A	859,330	µg/Kg		7.85	ND	ND	10.7	ND	1.14	6.65	0.343	ND	0.355	ND	16.2	ND	70.50	5.23	ND
PID	N/A	N/A	ppm		1.7	ND	1.1	0.2	0.5	ND	0.1	ND	0.2	0.3	0.9	0.2	0.4	NT	ND	0.3

J = Detected above method limit but below the limit of quantitation
NA - Not Applicable
NT - Not Applicable/Not Tested
ND = Not Detected above method limit
Detected above screening or action level

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-24 0'-2'	SB-24 8'-10'	SB-25 0'-2'	SB-25 12'-14'	SB-26 0'-2'	SB-26 6'-7'	SB-27 0'-2'	SB-27 2'-4'	SB-28 0'-2'	SB-28 10'-12'	SB-29 0'-2'	SB-29 28'-30'	SB-30 0'-2'	SB-30 10'-12'	SB-31 0'-2'	SB-31 2'-4'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	12/09/14	12/09/14	12/10/14	12/10/14	12/10/14	12/10/14	12/10/14	12/10/14	12/11/14	12/11/14	12/11/14	12/11/14	12/11/14	12/11/14	12/11/14	12/11/14
Potential On-Site Constituents (POSCs)	USEPA Region 5 RCRA (µg/kg)	OEPA Industrial / Commercial (µg/kg)	Units	Collection Time	15:35	17:00	11:00	12:30	15:05	15:40	16:00	16:05	9:15	10:15	10:28	12:55	12:00	12:45	13:50	14:10
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		ND	ND	17	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	ND	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	ND	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chrysene	4,730	5,800,000	µg/Kg-dry		ND	ND	31	ND	ND	ND	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	2,500	110,000,000	µg/Kg-dry		ND	9	ND	7.4 J	ND	ND	ND	4.5 J	ND	4.7 J	ND	8.6 J	19	35	ND	ND
Benzene	255	140,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.77 J	ND	ND	ND	ND
Toluene	5,450	820,000	µg/Kg-dry		0.38 J	0.51 J	ND	0.83 J	0.55 J	ND	0.29 J	0.34 J	ND	ND	ND	0.64 J	0.26 J	0.49 J	7.0	ND
Ethylbenzene	5,160	480,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
xylenes	10,000	260,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60	ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	30 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH (Laboratory)	N/A	N/A	s.u.		8.0	8.1	8.7	8.0	8.2	8.2	8.2	7.8	8.7	8.4	9.0	8.4	8.4	7.1	9.1	7.1
TTPC	N/A	859,330	µg/Kg		27.10	ND	11.1	0.336	36.80	ND	35.3	0.645	1.75	ND	52.40	0.567	0.949	ND	14.90	0.647
PID	N/A	N/A	ppm		1.1	3.1	0.5	1.6	0.4	11.7	0.7	0.3	1.1	1.4	0.4	ND	0.2	3.2	45.1	135

J = Detected above method limit but below the limit of quantitation

NA - Not Applicable

NT - Not Applicable/Not Tested

ND = Not Detected above method limit

Detected above screening or action level

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-32 0'-2'	SB-32 30'-31'	SB-33 0'-2'	SB-33 0'-2' DUPE-3	SB-33 8'-10'	SB-34 0'-2'	SB-34 8'-10'	SB-35 0'-2'	SB-35 2'-4'	SB-36 0'-2'	SB-36 4'-6'	SB-37 0'-2'	SB-37 2'-4'	SB-37 4'-6'	SB-38 0'-2'	SB-38 2'-4'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	12/11/14	12/12/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14	12/15/14
Potential On-Site Constituents (POSCs)	USEPA Region 5 RCRA (µg/kg)	OEPA Industrial / Commercial (µg/kg)	Units	Collection Time	15:50	12:30	9:20	9:10	9:55	8:35	9:12	9:55	10:12	11:40	12:10	13:50	14:00	14:20	15:40	15:50
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		ND	ND	12	16	750	15	ND	ND	ND	ND	26	17	14		ND	ND
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	ND	ND	33	550	ND	ND	ND	ND	ND	ND	32	ND		ND	ND
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	ND	ND	29	700	ND	ND	ND	ND	ND	ND	31	ND		ND	ND
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	ND	ND	21	310	ND	ND	ND	ND	ND	ND	20	ND		ND	ND
chrysene	4,730	5,800,000	µg/Kg-dry		ND	ND	ND	ND	740	ND	ND	ND	ND	ND	6.6 J	6.7 J	ND		ND	ND
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	ND	ND	ND	79	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	ND	ND	30	280	ND	ND	ND	ND	ND	ND	33	ND		ND	ND
Acetone	2,500	110,000,000	µg/Kg-dry		ND	ND	3.6 J	ND	7.3	ND	ND	ND	41	ND	20	28	620 J		29	17
Benzene	255	140,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
Toluene	5,450	820,000	µg/Kg-dry		ND	0.52 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13		1.7 J	1.1 J
Ethylbenzene	5,160	480,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
xylenes	10,000	260,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J	ND	ND		ND	ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
pH (Laboratory)	N/A	N/A	s.u.		8.5	8.1	7.7	7.7	6.5	8.8	7.7	8.1	7.9	8.6	8.1	8.2	6.3		8.5	8.3
TTPC	N/A	859,330	µg/Kg		106.0	ND	2,080.0	225.0	53.1	94.5	ND	6,470.0	3,070.0	2,870.0	8.91	96.3	NA	8.28	13.30	13.60
PID	N/A	N/A	ppm		5.2	6.0	3.0	NT	5.1	ND	0.2	0.7	0.6	10.3	8.9	2.3	3.9	1.4	3.6	1.9

J = Detected above method limit but below the limit of quantitation
NA - Not Applicable
NT - Not Applicable/Not Tested
ND = Not Detected above method limit
Detected above screening or action level

Soil Boring Soil Sample Analytical Data
Table 6

				Sample ID	SB-39 0'-2'	SB-39 2'-4'	SB-40 0'-2'	SB-40 2'-4'	SB-41 0'-2'	SB-41 2'-4'	SB-42 0'-2'	SB-42 0'-2' DUPE-4	SB-42 2'-4'
	SCREENING LEVELS	ACTION LEVELS		Collection Date	12/15/14	12/15/14	12/15/14	12/15/14	12/16/14	12/16/14	12/16/14	12/16/14	12/16/14
Potential On-Site Constituents (POSCs)	USEPA Region 5 RCRA (µg/kg)	OEPA Industrial / Commercial (µg/kg)	Units	Collection Time	15:15	15:25	16:30	16:50	8:10	8:40	8:15	8:15	8:25
benzo(a)anthracene	5,210	58,000	µg/Kg-dry		ND	ND	16	ND	ND	ND	ND	9.3	ND
benzo(a)pyrene	1,520	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene	N/A	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene	148,000	580,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
chrysene	4,730	5,800,000	µg/Kg-dry		ND	ND	4.8 J	ND	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene	18,400	5,800	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-c,d)pyrene	109,000	58,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	2,500	110,000,000	µg/Kg-dry		7.4	5.0	18.0	24	12	ND	28	28	ND
Benzene	255	140,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5,450	820,000	µg/Kg-dry		1.4 J	ND	ND	1.5 J	1.8 J	ND	ND	ND	ND
Ethylbenzene	5,160	480,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
xylenes	10,000	260,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (cumene)	N/A	270,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
naphthalene	99	450,000	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
isopropyl alcohol	N/A	N/A	µg/Kg-dry		ND	ND	ND	ND	ND	ND	ND	ND	ND
pH (Laboratory)	N/A	N/A	s.u.		8.3	8.3	8.6	8.5	8.7	8.0	6.7	6.1	5.7
TTPC	N/A	859,330	µg/Kg		22.50	16.20	68.3	9.09	3.61	ND	ND	0.396	ND
PID	N/A	N/A	ppm		10.6	14.8	3.2	NT	1.7	2.8	0.1	NT	0.4

J = Detected above method limit but below the limit of quantitation

NA - Not Applicable

NT - Not Applicable/Not Tested

ND = Not Detected above method limit

Detected above screening or action level

Soil Boring Groundwater Quality Summary Table

Table 7

			Sample ID	GP 08	GP 19	GP 22	GP 23	GP 24	GP 26	GP 28	SB 15W	SB 20W	SB 21W	SB 31W	SB 20W DUP-5	
	Screening Levels		**Collection Date**	12/17/2014	12/17/2014	12/16/2014	12/17/2014	12/17/2014	12/17/2014	12/16/2014	12/18/2014	12/18/2014	12/18/2014	12/18/2014	12/18/2014	
Potential On-Site Constituents (POSCs)	**Ohio EPA Ground Water (µg/L)**	**Units**	**Collection Time**	12:45	12:15	15:55	10:00	9:15	8:10	13:55	14:00	12:00	13:20	8:50	12:10	
benzo(a)anthracene	0	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
benzo(a)pyrene	0	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
benzo(b)fluoranthene	N/A	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
benzo(k)fluoranthene	0	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
chrysene	3	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
dibenzo(a,h)anthracene	0	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
indeno(1,2,3-c,d)pyrene	0	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
Acetone	14,000	µg/L		3.4 J	ND	3.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	5	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	0.63 J	0.72 J	ND	0.66 J	
Toluene	1,000	µg/L		ND	1.8 J	ND	ND	ND	ND	ND	ND	ND	0.41 J	ND	ND	
Ethylbenzene	700	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
xylenes	10,000	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0 J	1.0 J	ND	
Isopropylbenzene	450	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
naphthalene	40,000	µg/L		ND	ND	ND	ND	ND	ND	ND	ND	0.88 J	ND	ND	0.79 J	
isopropyl alcohol	N/A	µg/L		ND	N/A	N/A	ND	ND	ND	N/A	ND	ND	ND	ND	ND	
pH (laboratory)	6.5-8.5	s.u.		7.09	7.09	7.09	6.66	7.02	6.2	N/A	7.3	7.1	7.0	6.89	7.06	
*TTPC	1*	µg/L		ND	ND	ND	ND	ND	ND	RP	ND	ND	ND	ND	ND	

J = Detected above method limit but below the limit of quantitation

NA - Not Applicable

* TTPC screening level developed by OEPA EcoSar assessment

NT - Not Applicable/Not Tested

ND = Not Detected above method limit

Detected above or outside of screening or action level

Table 8

EISENBARTH PAD SOIL SAMPLING DATA

USEPA Split Sample Locations

Borings SB-16, SB-35, and SB-41 (0' -2' intervals)

Sample ID	Collection Date	Collection Time	Analytes	Penn E & R Results	START Results	Units	SCREENING LEVELS USEPA Region 5 RCRA (µg/Kg)	ACTION LEVELS OEPA Industrial /Commercial (µg/Kg)
SB-16 / 0'-2'	12/4/2014	11:15	benzo(a)anthracene	16	ND	µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	13	ND	µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	14	ND	µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	5.5J	ND	µg/Kg-dry	1 48,000	580,000
			chrysene	7.8J	ND	µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND	ND	µg/Kg-dry	18,400	5,800
			indeno(1,2,3-c,d)pyrene	10	ND	µg/Kg-dry	109,000	58,000
			Acetone	ND	ND	µg/Kg-dry	2,500	110,000,000
			Benzene	ND	ND	µg/Kg-dry	255	140,000
			Toluene	ND	ND	µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND	ND	µg/Kg-dry	5,160	480,000
			xylenes	ND	ND	µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND	ND	µg/Kg-dry	N/A	270,000
			naphthalene	ND	ND	µg/Kg-dry	99	450,000
			isopropyl alcohol	ND	ND	µg/Kg-dry	N/A	N/A
			pH	8.4	9.1	s.u.	N/A	N/A
			*TTPC	720	581	µg/Kg	N/A	859,330
			PID	1.2	NA	ppm	N/A	N/A
SB-35 / 0'-2'	12/15/2014	9:55	benzo(a)anthracene	ND	ND	µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND	ND	µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND	ND	µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND	ND	µg/Kg-dry	1 48,000	580,000
			chrysene	ND	ND	µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND	ND	µg/Kg-dry	18,400	5,800
			indeno(1,2,3-c,d)pyrene	ND	ND	µg/Kg-dry	109,000	58,000
			Acetone	ND	15	µg/Kg-dry	2,500	110,000,000
			Benzene	ND	ND	µg/Kg-dry	255	140,000
			Toluene	ND	ND	µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND	ND	µg/Kg-dry	5,160	480,000
			xylenes	ND	ND	µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND	ND	µg/Kg-dry	N/A	270,000
			naphthalene	ND	ND	µg/Kg-dry	99	450,000
			isopropyl alcohol	ND	ND	µg/Kg-dry	N/A	N/A
			pH	8.1	9.1	s.u.	N/A	N/A
			*TTPC	6,470.00	5,220.00	µg/Kg	N/A	859,330
			PID	0.7	NA	ppm	N/A	N/A
SB-41 / 0'-2'	12/16/2014	8:10	benzo(a)anthracene	ND	ND	µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND	ND	µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND	ND	µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND	ND	µg/Kg-dry	1 48,000	580,000
			chrysene	ND	ND	µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND	ND	µg/Kg-dry	18,400	5,800
			indeno(1,2,3-c,d)pyrene	ND	ND	µg/Kg-dry	109,000	58,000
			Acetone	12	ND	µg/Kg-dry	2,500	110,000,000
			Benzene	ND	ND	µg/Kg-dry	255	140,000
			Toluene	1.8 J	ND	µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND	ND	µg/Kg-dry	5,160	480,000
			xylenes	ND	ND	µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND	ND	µg/Kg-dry	N/A	270,000
			naphthalene	ND	ND	µg/Kg-dry	99	450,000
			isopropyl alcohol	ND	ND	µg/Kg-dry	N/A	N/A
			pH	8.7	9.6	s.u.	N/A	N/A
			*TTPC	3.61	37.40	µg/Kg	N/A	859,330
			PID	1.7	NA	ppm	N/A	N/A

NOTES:

J = The result is between the Method of Detection Limit and LOQ LOQ = Limit of Quantitation

ND = Not Detected

* TTPC Soil Screening Levels are preliminary and based on published Koc values and EPA Guidelines for Sediment Equilibrium Partitioning

NA = Not Applicable

APPENDIX A

Boring Logs

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-1
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	4.5	DATE	11/24/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	HIGH WINDS, OVERCAST	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	60's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			7 8 7 14	1.5' 2'	0.5	13:50		GRAY, SANDY CLAY, GRAVEL
2							2	BROWN SILTY CLAY, SMALL STONES, MOIST
			7 7 9 50/5	2' 2'	0.6	14:25		BROWN MOTTLED CLAY, MOIST RED (DARK) SILTY CLAY, DRY STONE FRAGMENTS, LIGHT GRAY SHALE
4							4	
			50/5	5"	0.8	14:35		BROWN SHALE - SILTY, DRY REFUSAL @ 4.5'
6							6	
8							8	
10							10	

ELEV: 1297.93
LAT: 39°41'53.57" N
LON: 80°53'55.24" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-2
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	4.5	DATE	11/24/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	HIGH WINDS, OVERCAST	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	60's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			2 2 36 50/5	1.4'	0.4	14:45		ORGANIC MATERIALS BROWN SILT, TRACE GRAY SILT, SOME CLAY, MOIST GRAY SHALE, DRY
2							2	
			50/3	0.3'	0.8	14:55		GRAY SHALE, DRY
4							4	
			50/3	0.3'	1	15:10		BROWN-RED SHALE, DRY
6							6	
8							8	
10							10	

ELEV: 1296.31
LAT: 39°41'55.57" N
LON: 80°53'53.62" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-3
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	2	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			0 0 8 46	6"	0.2	8:41		DARK BROWN SILT WITH SHALE FRAGMENTS, MOIST
2							2	SHALE FRAGMENTS IN SHOE HARD FRACTURED STOPPED ON COBBLES
						9:26		
4							4	
6							6	
8							8	
10							10	

ELEV: 1295.92
LAT: 39°41'52.40" N
LON: 80°53'53.18" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-4
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	4.5	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:34
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			5 9 50/4	1.2'	0.3	9:41		BROWN SILT, SANDY, MOIST
								GRAY SHALE, DRY
2							2	
			49 50/3	0.5'	0.6	9:51		GRAY SHALE, DRY
4							4	
6							6	
8							8	
10							10	

ELEV: 1296.82
LAT: 39°41'52.06" N
LON: 80°53'52.13" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-5
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	4.5	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	10:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			12 40 50/4	1.0'	0.4	10:23		BROWN SILT, GRAVEL, MOIST
								GRAY SHALE, DRY
2							2	
			38 50/4	0.7'	0.4	10:37		GRAY SHALE, DRY
4							4	
			50/5	0.25'	0.4	10:46		BROWN SHALE, DRY
6							6	
			38 50/4	0.75'	0.5	11:01		BROWN SHALE, DRY
8							8	
10							10	

ELEV: 1296.05
LAT: 39°41'51.33" N
LON: 80°53'52.23" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-6
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	27	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			8 10 5 5	1.0'	0.3	11:30		BROWN SILT, SAND, MOIST
2							2	
			4 5 8 6	1.55'	0.5	11:40		BROWN SILT, MOIST BROWN SHALE, DAMP
4							4	
			8 9 5 4	1.15'	0.4	11:44		BROWN SILT, CLAY, SHALE, MOIST
6							6	
			4 4 5 6	0.6'	0.2	11:50		BROWN SILT, CLAYSTONE- SHALE, MOIST
8							8	
	8' - 9' NO SAMPLE							
	9' - 11'		3 4 6	1.7'	0.5	12:00		9.0 DARK RED SHALE, DAMP 9.5 BROWN SANDY CLAY, MOIST
10							10	
			7					

ELEV: 1295.54
LAT: 39°41'55.15" N
LON: 80°53'55.94" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-6
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	27	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	CONTINUED FROM PAGE 1
								DAMP WEATHERED CLAYSTONE
11							11	SHALE, IRONING STAINING
			3			12:14		RED-BROWN CLAYSTONE
			7	0.6'	0.3			WEATHERED MOIST SOFT
12							12	
			5			12:25		RED-BROWN CLAYSTONE MOIST
			4					BROWN-SILTSTONE, WET
			4	1.8'	0.4			13.3 WEATHERED SILTSTONE/SHALE, DRY
			10					
14							14	
			4			12:32		
			5					BROWN, TRACES OF RED SILTSTONE
			10					MOIST
			7	1.6'	0.4			
16							16	15.3 DRY, SILTSTONE/SHALE
			8			12:46		
			13					BROWN CLAYEY-SILT, MOIST
			7					
			8	1.8'	0.6			LIGHT BROWN SILT/CLAY STONE, DRY
18							18	
			7			12:58		
			7					
			10					19.0 WEATEHRED CLAY STONE/CLAY
			10	1.4'	0.8			DAMP
20							20	19.5 RED BROWN CLAY, DAMP

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-6
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	27	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			7			13:00		BROWN SILTY CLAY, MOIST
			8					
			17					RED SILTY CLAY, MOIST
			23	1.7'	0.7			
22							22	RED SILTSTONE, DRY
			10			13:10		REDDISH BROWN SILTSTONE, DRY
			6					
			7					DARK BROWN SILTY CLAY, MOIST, SOFT
			10	1.8'	0.7			
24							14	
			11			13:25		BROWN CLAY SILT, MOIST
			37					
			50/4	1.6'	1			
26							16	
			35			13:48		BROWN REDDISH SILTY CLAY
			50/3	0.7'	0.2			MOIST TO DRY
28							18	
30							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-7
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	5	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:55
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			35			14:55		LIGHT GRAY SILTY SAND, GRAVEL, DRY
			30					
			27					
			25	1.3'	0.5			
2							2	
			32			15:05		LIGHT GRAY SILTY SAND, GRAVEL, DRY
			50/3	0.9'	0.3			
								RED SILTY CLAY/SHALE, DRY
4							4	
			39			15:15		RED CLAY/SHALE, DRY
			50/3	1.0'	0.5			
6							6	
8							8	
10							10	

ELEV: 1296.75
LAT: 39°41'52.15" N
LON: 80°53'54.56" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-8
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/AC	BORING DEPTH (ft bgs)	4.5	DATE	11/25/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS, CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			27 22 19 17	1.3'	0.7	15:30		LIGHT GRAY SILTY SAND & GRAVEL, DRY
2							2	
			50/4	0.25'	0.1	15:35		LIGHT GRAY SILTY SAND & GRAVEL, DRY
4							4	
			50/5	0.50'	0.2	15:40		LIGHT GRAY CLAY/SHALE, DRY
6							6	
8							8	
10							10	

ELEV: 1296.65
LAT: 39°41'51.74" N
LON: 80°53'54.16" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-9
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	10:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
0							
			19 20 33 20	0.8'/2'	0.4	10:32	PAD SURFACE-GRAVEL W/SAND, WET 1.0 MOTTLED LIGHT BROWN/BROWN CLAY, DRY/DAMP, STIFF
2							
			18 50/4"	0.9'	0.6	10:37	2.0 DARK BROWNISH-RED CLAY STONE/SHALE, WEATHERED, FRACTURED, DRY
4							
			50/5"	0.4'	0.1	10:44	SHALE BECOMES YELLOWISH-BROWN REFUSAL @ 4.5'
6							
8							
10							

ELEV: 1296.11
LAT: 39°41'51.13" N
LON: 80°53'53.74" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-10
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.8	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			9 19 20 12	1.8'	1.5	11:05		PAD SURFACE-GRAY GRAVEL, W/SAND DRY, DENSE
2							2	
			10 50/5"	0.8'	0.6	11:20		GRAY WEATHERED SHALE DRY, FRACTURED
4							4	
			20 50/3"	0.7'	0.4	11:25		YELLOWISH-BROWN SHALE REFUSAL @ 4.8'
6							6	
8							8	
10							10	

ELEV: 1296.81
LAT: 39°41'51.14" N
LON: 80°53'54.52" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-11
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			12 19 11 9	1.5'	1.4	12:40		PAD SURFACE-GRAVEL & SAND GRAY-DAMP RED CLAY, MEDIUM STIFF DAMP
2							2	
			25 50/4"	0.8'	0.2	12:50		LIGHT YELLOW BROWN CLAYSTONE/ SHALE, WEATHERED, DRY, FRACTURED
4							4	
			50/5"	0.5'	0.8	13:00		LIGHT YELLOW BROWN CLAYSTONE/ SHALE, WEATHERED, DRY, FRACTURED REFUSAL @ 4.5'
6							6	
8							8	
10							10	

ELEV: 1296.88
LAT: 39°41'51.25" N
LON: 80°53'55.39" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-12
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	13:25
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			10			13:30		PAD SURFACE- GRAVEL, GRAY-DRY/DAMP
			25					W/SAND
			20					
			16	1.8'	0.8			1.7 MEDIUM GRAY WEATHERED
2							2	SHALE, DRY, STIFF
			18			13:45		MEDIUM GRAY WEATHERED
			50/5"	0.8'	0.4			SHALE, DRY, STIFF
4							4	
			39			13:55		YELLOW BROWN, DRY
			50/5"	0.6'	0.3			STIFF, WEATHERED
								FRACTURED
6							6	STOPPED BORING @ 4.5'
8							8	
10							10	

ELEV: 1296.99
LAT: 39°41'51.82" N
LON: 80°53'55.09" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-13
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:25
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			13 15 18 24	1.5'	0.7	14:25		PAD SURFACE-GRAVEL & SAND DAMP, MEDIUM GRAY 1.3 LIGHT GRAY SHALE, WEATHERED FRACTURED CLAY
2							2	
			24 50/3"	0.8'	0.9	14:35		2.0 LIGHT GRAY SHALE, WEATHERED FRACTURED CLAY
4							4	
			27 50/3"	0.7'	1.1	14:40		LIGHT YELLOWISH BROWN SHALE DRY, FRACTURED, WEATHERED REFUSAL @ 4.5'
6							6	
8							8	
10							10	

ELEV: 1296.51
LAT: 39°41'52.26" N
LON: 80°53'55.06" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-14
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/3/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:10
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
0							
			16			15:15	PAD SURFACE-GRAVEL & SAND
			18				DARK GRAY, DAMP
			14				
			11	1.5'	2		1.8 DARK GRAY SAND, WET
2							1.9 REDDISH BROWN WEATHERED SHALE, DRY
			18			15:35	
			10				
			15				
			50/5"	1.5'	1.7		3.5 BECOMES YELLOW BROWN SHALE
4							FRACTURED/WEATHERED, DRY
			50/5"	0.5'	0.7	15:45	4.5 YELLOWISH BROWN SHALE
							DRY, FRACTURED/WEATHERED
							REFUSAL @ 4.5'
6							
8							
10							

ELEV: 1296.62
LAT: 39°41'53.11" N
LON: 80°53'56.12" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-15
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/3/2014 to 12/4/2014
DRILLER(s)		WATER LEVEL	26 ft bgs	SAMPLE TIME	16:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT WIND & RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			0			16:35		BERM-FILL
			0					SILT W/SAND & GRAVEL
			0					MOIST, SOFT, ORANGE BROWN
			2	0.5'	0.0			
2							2	
			13			16:40		PAD SURFACE-GRAVEL &DARK GRAY SAND
			10					
			10	1.1'				3.1 OLIVE BROWN WEATHERED
			2		0.0			SHALE& CLAY, DAMP
4							4	3.8 DARK READ WEATHERED SHALE, FRACTURED, DAMP
			6			16:50		4.0 DARK OLIVE BROWN SHALE
			10	0.4'				FRACTURED, DAMP W/SOME CLAY
			6					
			6		0.0			
6							6	
			3			17:00		6.0 BECOMES DARK RED
			10					HIGHLY FRACTURED, DAMP
			6	1.5'				
			6		0.0			7.6 YELLOW BROWN FRACTURED
8							8	SHALE, DRY
			4					
			4					9.2 DARK RED CLAY W/SHALE
			3	1.3'				FRAGMENTS, DAMP
			16					9.8 YELLOW BROWN FRACTURED
10							10	SHALE, DRY

ELEV: 1298.05
LAT: 39°41'52.90" N
LON: 80°53'56.56" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-15
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/3/2014 to 12/4/2014
DRILLER(s)		WATER LEVEL	26 ft bgs	SAMPLE TIME	16:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							
			10			17:30	YELLOW BROWN FRACTURED
			14				SHALE & CLAY, DRY
			11				
			8	1.4'	0.0		
12							
			5			7:40	12.0 DARK RED FRACTURED SHALE, DAMP
			6				12.5 YELLOW BROWN FRACTURED SHALE,
			7				DRY
			5	1.1'	0.0		13.0 YELLOW BROWN SAND & CLAY,
14							DAMP
			11			8:00	14.0 YELLOW BROWN FRACTURED SHALE,
			6				DRY
			6				15.0 YELLOW BROWN SANDY CLAY, DAMP
			7	1.2'	0.0		
16							
			5			8:20	16.0 RED BROWN CLAY, MEDIUM SOFT, WET
			9				
			29				17.0 YELLOW BROWN SHALE, WEATHERED
			30	1.6'	0.0		FRACTURED, DRY
18							
			11			8:25	18.0 YELLOW BROWN CLAY W/SHALE
			13				FRAGMENTS, DRY
			8				
			10	1.2'	0.0		
20							

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-15
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	26 ft bgs	SAMPLE TIME	8:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			5			8:35		YELLOW BROWN CLAY W/SHALE
			6					FRAGMENTS, DAMP
			6					
			27	1.3'	0.0			21.7 OLIVE GRAY SHALE, WEATHERED,
22							22	FRACTURED, DRY
			9			8:45		22.0 OLIVE GRAY SHALE, WEATHERED,
			11					FRACTURED, DRY
			14					
			6	1.4'	0.0			23.7 RED BROWN CLAY/WEATHERED
24							24	SHALE, DAMP, FRACTURED
			6			8:55		
			9					
			3					25.6 SANDY GRAVEL-MOIST, LOOSE
			8	1.3'	0.0			1/4" PEEBLES W/SAND, PEEBLES ARE
26							26	FRACTURE & SOME WELL ROUNDED, BROWN
			2			9:15		& DARK GRAY PEEBLES
			7					26.0 PEA GRAVEL, WELL ROUNDED,
			21					1/4" -3/8" DIAMETER-WET
			50/5"	1.5'	0.0			27.0 DARK RED WEATHERED SHALE
28							28	DAMP, SOME MOTTLING
			25			9:25		
			50/2"	0.5'				
					0.0			
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-16
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	13.5	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD- GRAY GRAVEL & SAND, WET
			0			11:15		
			5					1.0 DARK GRAY SAND, STRONG ODOR,
			5					WET, SOME SILT/CLAY
			10	1.0'	1.2			1.5 SHALE FRAGMENT, YELLOW-
2							2	BROWN, WEATHERED, DRY
			11			11:20		2.0 YELLOW BROWN SILT W/SHALE
			11					FRAGMENTS, WET
			7					3.0 DARK BROWN SHALE, FRACTURED, DAMP
			5	0.8'	0.8			3.2 BROWN SILT W/SHALE
4							4	FRAGMENTS, DAMP
			3			11:25		4.0 RED BROWN SILT W/SHALE
			3					FRAGMENTS, DAMP
			3					5.0 PEA GRAVEL, DAMP
			6	0.8'	0.8			W/SAND, LOOSE, BROWN
6							6	
			5			11:35		
			7					6.5 RED BROWN SILT W/SHALE
			4					FRAGMENTS, DAMP
			3	0.7'	0.7			
8							8	
			3			11:42		8.0 RED BROWN SILT W/SHALE
			3					FRAGMENTS, DAMP
			2					
			8	1.4'	1.7			
10							10	

ELEV: 1296.27
LAT: 39°41'52.85" N
LON: 80°53'56.41" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-16
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	13.5	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							10
			3			12:48	10.0 YELLOW BROWN WEATHERED SHALE,
			4				DRY, FRACTURED
			22				
			10	0.8'	0.9		11.0 BECOMES DAMP
12							12
			28			12:55	12.0 DARK RED SHALE, DRY
			50/5"	0.7'	0.5		FRACTURED
							AUGER REFUSAL @ 13.5'
14							14
16							16
18							18
20							20

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-17
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	43	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			4			15:15		FILL- BROWN SILT, MOIST, SOFT
			6					0.2 RED BROWN SILT, DAMP
			7					
			7	1.9'	0.0			1.8 RED CLAY W/FRACTURED SHALE
2							2	FRAGMENTS, DAMP
			3			15:30		2.0 RED CLAY W/FRACTURED SHALE
			23					FRAGMENTS, DAMP
			36					
			13	0.6'	0.6			
4							4	
			8			15:35		4.0 YELLOW BROWN SILT, W/WEATHERED
			9					SHALE FRAGMENTS, DAMP
			6					
			5	0.8'	0.0			5.5 OLIVE BROWN SILT W/SAND
6							6	AND WEATHERED SHALE FRAGMENTS, DRY
			12			15:45		6.0 MEDIUM DARK GRAY SHALE, HIGHLY
			15					WEATHERED/FRACTURED, DRY
			7					
			5	1.3'	0.2			
8							8	
			12			15:55		NO RETURN - SANDSTONE FRAGMENTS
			13					IN END OF SHOE, OLIVE BROWN,
			11					HARD, DRY
			12	NR	-			
10							10	

ELEV: 1263.16
LAT: 39°41'53.55" N
LON: 80°53'58.46" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-17
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	43	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			6			16:05		10.0 GRAY BROWN CLAY, W/WEATHERED
			7					SHALE, DAMP
			9					
			6	0.9'	0.1			11.5 OLIVE BROWN WEATHERED SHALE,
12							12	DRY
			8			16:15		12.0 GRAY WEATHERED SHALE, DRY
			6					
			5					13.1 YELLOW BROWN SILT, W/WEATHERED
			6	1.3'	0.1			SHALE FRAGMENTS, DAMP
14							14	
			5			16:20		
			6					
			4					15.0 DARK GRAY WEATHERED SHALE, DRY
			3	1.3'	0.7			15.8 DARK RED CLAY, DAMP
16							16	
			7			16:25		16.0 DARK RED CLAY, DAMP
			6					
			5					
			8	1.3'	0.5			
18							18	
			3			16:30		18.0 DARK RED CLAY, DAMP
			4					
			7					
			15	1.2'	0.4			
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-17
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	43	DATE	12/4/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CALM CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			3			16:45		20.0 SOFT RED CLAY, DAMP
			10					
			11					
			13	0.5'	0.6			SANDSTONE FRAGMENTS IN SHOE
22							22	HARD GRAY-DRY
			6			16:55		22.0 SOFT RED CLAY, DAMP
			13					
			13					
			12	1.5'	0.8			
24							24	
			9			17:05		24.0 SOFT RED CLAY, DAMP
			13					
			15					
			11	1.2'	0.8			
26							26	
			13			17:20		26.0 SOFT RED CLAY, DAMP
			11					
			8					
			5	1.3'	1.1			
28							28	
			4			12/5/2014		28.0 RED CLAY WITH SHALE FRAGMENTS,
			13			7:45		DAMP, SOME MOTTLING
			8					
			15	1.6'	0.1			
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-17
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	43	DATE	12/5/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
30						12/5/2014	30	
			33			8:05		30.0 RED CLAY, DAMP
			29					
			10					
			16	1.1'	0.3			31.0 WEATHERED GRAY SHALE,
32							32	FRACTURED, DRY
			8			8:20		32.0 RED CLAY, DAMP, FEW
			8					YELLOW BLACK SHALE FRAGMENTS,
			11	1.9'				STIFF
			14		0.4			
34							34	
			5			8:35		34.0 RED CLAY, DAMP, FEW
			8					YELLOW BLACK SHALE FRAGMENTS, STIFF
			2					35.0 YELLOW BROWN SHALE,
			50/3"	1.4'	0.3			WEATHERED/FRACTURED, DRY
36							36	35.7 DARK YELLOW BROWN SHALE
			31			8:50		W/SAND, DRY
			22					
			12					37.0 BECOMES HIGHLY FRACTURED
			23	1.1'	0.3			37.5 BECOMES GRAY
38							38	
			11			9:10		38.0 DARK YELLOW BROWN SILT & CLAY,
			19					DAMP
			20					38.8 DARK RED BROWN CLAY,
			50/4"	2.0'	0.1			SOME SHALE FRAGMENTS, DAMP
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-17
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	43	DATE	12/5/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
40							40	
			10			9:30		40.4 DARK RED BROWN CLAY, DAMP
			37					40.6 MOIST
			20					40.7 DARK YELLOW BROWN CLAY/SILT,
			25	1.6'	0.3			DAMP
42							42	41.0 YELLOW BROWN SHALE,
			47			9:45		HIGHLY WEATHERED/FRACTURED, DRY
			50/3"	1.3'	0.1			43.0 BECOMES LIGHT GRAY, DRY
44							44	AUGER REFUSAL @ 43'
46							46	
48							48	
50							50	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-18
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	33	DATE	12/5/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
0							
			0			11:20	0.0-0.2 FILL - BROWN CLAY, WET
			5				0.2 DARK RED BROWN CLAY, DAMP
			5				
			4	1.6'	0.2		
2							
			7			11:30	
			13				
			10				3.5 W/LITTLE YELLOW BROWN MOTTLING,
			10	1.5'	0.3		DAMP
4							
			4			11:35	
			9				
			8				5.5 DARK YELLOW BROWN SILTY CLAY,
			5	1.0'	0.4		DAMP
6							
			5			11:45	
			5				
			8				7.0 BECOMES MEDIUM BROWN, DAMP
			8	1.6'	0.3		7.5 BECOMES DARK GRAY, DAMP
8							
			5			11:50	
			5				
			5				9.0 SOME DARK YELLOW BROWN MOTTLING
			8	1.4'	0.3		9.5 NO MOTTLING-DRY
10							

ELEV: 1269.70
LAT: 39°41'52.73" N
LON: 80°53'58.71" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-18
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)		DATE	12/5/2014
DRILLER(s)		WATER LEVEL	ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			5			12:00		10.0 DARK GRAY CLAYEY SILT, DAMP
			6					
			5					11.0 BECOMES MEDIUM GRAY, DRY
			5	0.9'	0.4			11.5 DARK GRAY, DAMP
12							12	
			4			12:05		
			4					
			6					13.0 MEDIUM YELLOW BROWN CLAYEY SILT,
			20	1.3'	0.4			DAMP, LITTLE SHALE FRAGMENTS
14							14	13.2 DARK RED CLAY, DAMP
			12			12:15		TRACE YELLOW BROWN SHALE FRAGM'TS
			10					
			7					15.1 YELLOW BROWN SHALE
			6	1.0'	0.4			FRAGMENTS, DRY
16							16	
			0			12:20		16.0 BECOMES MOIST
			5					
			12					17.8 - 17.9 DARK YELLOW BROWN
			6	1.4'	0.5			SANDSTONE FRAGMENTS
18							18	
			0			12:30		18.5 MOIST
			6					19.0 DARK YELLOW BROWN
			8					SHALE FRAGMENTS
			5	1.8'	0.3			
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-18
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	33	DATE	12/5/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			5			12:40		20.0 DARK YELLOW BROWN SHALE FRAGMENTS
			8					MOIST
			13					21.0 DAMP
			10	1.4'	0.4			
22							22	21.8 SANDY SHALE FRAGMENTS
			3			12:50		
			6					
			4					23.0 MOIST
			10	1.0'	0.5			23.9 DARK GRAY SANDY SHALE FRAGMENT
24							24	DRY
			4			13:00		
			5					
			6					25.2-25.4 SHALE FRAGMENTS, DRY
			9	1.7'	0.4			
26							26	
			8			13:10		26.0 CLAY, DRY
			7					
			10					
			12	1.4'	0.5			27.9 DARK GRAY, SANDY SHALE, DRY
28							28	
			8			13:20		DARK RED BROWN CLAY, DAMP
			10					
			8					29.1 GRAY SANDY SHALE FRAGMENTS
			12	1.0'	0.3			29.7 W/LITTLE YELLOW BROWN
30							30	MOTTLING, DAMP

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-18
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	33	DATE	12/5/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OC, LIGHT RAIN, WIND	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
30							30	30.0 GRAY SANDY SHALE FRAGMENTS
			4			13:30		W/LITTLE YELLOW BROWN
			34					MOTTLING, DAMP
			50/4"	1.4'	0.3			30.5 BECOMES YELLOW BROWN
								WEATHERED SHALE, DRY FRACTURED
32							32	
			29			13:50		32.0 YELLOW BROWN WEATHERED SHALE,DRY
			50/3"	0.7'	0.5			FRACTURED
								REFUSAL @ 33'
34							34	
36							36	
38							38	
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-19
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	15.5	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			4			8:05		0.5 FILL - RED BROWN CLAY, SOFT, MOIST
			3					ROCK IN SHOE, LOW RETURN
			3					
			4	0.5'	0.0			
2							2	2.0 RED BROWN CLAY, DAMP
			3			8:20		
			6					
			6					3.0 DARK YELLOW BROWN SILT
			5	1.8'	0.1			W/SOME SANDY SHALE FRAGMENTS, DAMP
4							4	
			3			8:25		4.0 BROWN SILTY CLAY, DAMP
			4					
			5					
			5	0.7'	0.1			
6							6	
			8			8:30		6.0 DARK RED BROWN CLAY, DAMP
			5					
			7					7.0 LIGHT GRAY SANDY SHALE FRAG'TS, DRY
			7	1.0'	0.1			7.1 DARK RED BROWN CLAY
8							8	
			3			8:35		DARK RED CLAY, DAMP
			5					
			5					
			7	1.4'	0.0			9.4 DARK RED SHALE FRAGMENTS, DRY
10							10	

ELEV: 1273.92
LAT: 39°41'51.85" N
LON: 80°53'58.88" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-19
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	15.5	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
10							10	
			3			8:45		10.0 DARK RED CLAY, DAMP
			7					10.7 DARK YELLOW BROWN SANDY SHALE
			6					FRAGMENTS, DAMP
			6	1.3'	0.0			10.8 DARK YELLOW BROWN CLAY, DAMP
12							12	
			3			8:50		12.0 DARK RED BROWN CLAY
			5					DAMP, OCCASSIONAL
			5					DARK YELLOW BROWN SHALE
			6	1.8'	0.0			FRAGMENTS
14							14	
			3			9:00		
			21					14.6 MEDIUM YELLOW SANDY SHALE, DRY
			50/1"	1.4'	0.0			
								AUGER REFUSAL @ 15.5'
16							16	
18							18	
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-20
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	39	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	36 ft bgs	SAMPLE TIME	9:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-LIGHT GRAY GRAVEL W/SILTY SAND, DAMP
			6 6 6 6	1.3'	0.0	9:45		0.2 MEDIUM YELLOW BROWN SILT, DAMP
2							2	
			3 5 5 7	1.3'	0.0	9:55		2.0 MEDIUM YELLOW BROWN SILY CLAY & SHALE, GRAVEL, DAMP
4							4	
			5 6 7 5	1.7'	0.0	10:05		4.0 YELLOW AND BROWN SILTY CLAY & SHALE, GRAVEL W/GRAY SILTY LAYER @ 5.0'-5.1' MOIST
6							6	
			7 6 5 9	1.25'	0.0	10:10		6.0 YELLOW & LITTLE BROWN SILTY CLAY W/SHALE, GRAVEL, DRY
8							8	
			5 9 9 9	1.75'	0.0	10:15		8.0'-8.5' YELLOW BROWN SILTY CLAY WITH LITTLE GRAVEL 8.5'-10.0' YELLOW MEDIUM SILTY CLAY WITH SHALE GRAVEL, DRY
10							10	

ELEV: 1295.53
LAT: 39°41'53.78" N
LON: 80°53'56.53" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-20
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	39	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	36 ft bgs	SAMPLE TIME	9:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							10
			6			10:25	10.0 YELLOW BROWN SILTY CLAY MOSTLY
			10				YELLOW WITH BROWN LAYER @ 11.5'-11.75'
			6				THEN WEATHERED GRAY SHALE, DRY
			7	1.5'	0.0		
12							12
			3			10:35	12.0' RED BROWN CLAY, DAMP,
			12				SHALE FRAGMENTS
			19				13.2' MEDIUM YELLOW BROWN CLAY,
			8	1.2'	0.0		DAMP, YELLOW BROWN SANDY SHALE
14							14 FRAGMENTS
			10			10:45	
			16				15.0' DARK GRAY SANDY SHALE
			10				FRAGMENTS, DRY
			7	1.4'	0.0		15.8 DARK YELLOW BROWN SHALE, DRY
16							16 WEATHERED/FRACTURED
			5			10:55	16.0' MEDIUM YELLOW BROWN CLAY, DAMP
			3				W/SANDY SHALE FRAGMENTS
			5				17.1'-17.2' MOIST
			19	1.7'	0.0		17.7' BECOMES DARK RED BROWN, DAMP
18							18
			10			11:05	
			8				18.5' MOIST ABOVE DARK YELLOW
			10				BROWN SANDY SHALE, FRAGMENTED
			18	1.6'	0.0		18.6' DARK RED BROWN CLAY, DAMP
20							20 LITTLE SHALE FRAGMENTS

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-20
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	39	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	36 ft bgs	SAMPLE TIME	9:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
20							20	
			9			11:10		20.0 DARK RED CLAY, DAMP
			9					
			7					21.0' MEDIUM YELLOW BROWN SANDY
			42	0.9'	0.0			SHALE, FRACTURED, DAMP
22							22	
			4			11:20		22.0' DARK RED BROWN CLAY, DAMP
			7					
			9					23.2' SOME ROOT STRUCTURE, DAMP
			11	1.8'	0.0			23.25' YELLOW BROWN CLAY W/SHALE
24							24	FRAGMENTS, DAMP
			4			11:40		24.0 RED BROWN CLAY, DAMP W/SOME
			48					YELLOW BROWN SILTY CLAY
			42					24.5' LIGHT YELLOW BROWN SHALE,
			12	1.2'	0.1			FRACTURED/WEATHERED, DRY
26							26	
			4			11:50		26.0' RED BROWN CLAY, DAMP
			6					SHALE FRAGMENTS
			7					27.0'-27.4' YELLOW BROWN CLAY
			7	1.6'	0.1			W/SHALE FRAGMENTS, DAMP
28							28	27.4' RED BROWN CLAY, DAMP
			30			12:00		
			18					28.8' RED SHALE FRAGMENTS, DRY
			12					29.0' MEDIUM YELLOW BROWN SANDY
			11	1.2'	0.0			SHALE, DAMP, FRACTURED
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-20
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	39	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	36 ft bgs	SAMPLE TIME	9:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
30							30	
			4			12:10		30.0 DARK RED BROWN CLAY, DAMP
			6					31.0' DARK YELLOW BROWN SANDY SHALE
			10					FRAGMENTS
			14	1.0'	0.1			31.5' DARK RED BROWN CLAY, DAMP
32							32	W/LITTLE GRAY
			27			12:25		32.5' DARK RED SHALE, DRY, FRACTURED
			37					
			50/3"	1.2'	0.2			33.0' MEDIUM OLIVE BROWN SHALE, DRY,
34							34	FRACTURED
			6			12:35		
			13					35.6' BECOMES DARK RED SHALE, DRY,
			25					FRACTURED
			25	1.8'	0.1			
36							36	
			14			12:50		36.0' GRAY BROWN SILT W/SHALE
			23					FRAGMENTS, SATURATED
			50/5"	1.2'	0.0			36.4' DARK RED BROWN SHALE
								FRACTURES, DAMP, GRAY &
38							38	YELLOW BROWN SHALE FRAGMENTS
								AUGERED TO 39.0'
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-21
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	33	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	30 ft bgs	SAMPLE TIME	15:24
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	0.0 ROAD MATERIALS-GRAY GRAVEL & SAND, MOIST
			11 12 8 7	1.6'	0.3	15:24		0.2' MEDIUM YELLOW BROWN SILTY CLAY DAMP, LITTLE SAND & SHALE FRAGMENTS
2							2	
			4 5 6 6	1.0'	0.2	15:35		2.0' DARK YELLOW BROWN CLAY W/LITTLE FRAGMENTS, DAMP
4							4	
			7 8 9 18	1.1'	0.7	15:50		4.0' DARK RED BROWN SHALE, FRACTURED, DRY 5.0' DARK GRAY SHALE-FRAGMENTS, DRY 5.1' MEDIUM YELLOW BROWN SHALE, DRY, FRACTURED
6							6	
			7 8 8 6	1.1'	0.4	16:05		6.0' OLIVE BROWN SILTY CLAY W/SHALE FRAGMENTS, DAMP 7.5' LITTLE SHALE FRAGMENTS
8							8	
			5 6 13 8	1.5'	0.4	16:10		8.0 GRAY YELLOW SILTY CLAY WITH SHALE, GRAVEL, DRY
10							10	

ELEV: 1295.59
LAT: 39°41'53.38" N
LON: 80°53'56.78" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-21
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	33	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	30 ft bgs	SAMPLE TIME	15:24
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			4			16:15		10.0 GRAY YELLOW SILTY CLAY
			5					WITH SHALE GRAVEL,
			6					DRY
			7	1.6'	0.9			
12							12	
			4			16:25		12.0 GRAY YELLOW SILTY CLAY
			7					WITH SHALE GRAVEL, DRY
			6					13.5'-14.0' YELLOW BROWN SILTY
			8	1.6'	0.6			CLAY & SHALE GRAVEL, DRY
14							14	
			4			16:30		14.0 YELLOW BROWN SILTY CLAY &
			2					SHALE GRAVEL, DAMP
			6					15.0'-15.2' DRY
			18	1.4'	0.8			
16							16	
			4			16:40		16.0'-16.5' YELLOW-GRAY SILTY CLAY &
			6					SHALE GRAVEL, DAMP
			7					16.5'-16.75' GRAY SHALE GRAVEL, DRY
			9	1.7'	0.1			16.75'-18.0' GRAY SILTY CLAY & SHALE
18							18	GRAVEL, DAMP
			4			16:45		18.0 BROWN RED SILTY CLAY&SHALE GRAVEL
			8					DRY
			8					
			11	1.7'	0.4			19.75'-20.0' GRAY WEATHERED
20							20	SHALE, DRY

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-21
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	33	DATE	12/8/2014
DRILLER(s)		WATER LEVEL	30 ft bgs	SAMPLE TIME	15:24
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			4 8 10 14	1.5'	0.0	16:55		20.0'-21.0' BROWN RED SILTY CLAY & SHALE GRAVEL, DAMP 21.0'-22.0' GRAY WEATHERED SHALE, DRY
22							22	
			6 17 9 9	1.5'	0.1	17:05		22.0 GRAY YELLOW SILTY CLAY W/SHALE GRAVEL 23.0'-23.5' BROWN SANDSTONE, DRY
24							24	
			7 10 7 10	2.0'	0.2	17:10		24.0 BROWN TO YELLOW GRAY SILT CLAY & SHALE GRAVEL, DAMP
26							26	
			6 7 7 8	1.6'	0.2	17:20		26.0 BROWN-YELLOW SILTY CLAY & SHALE GRAVEL, DRY
28							28	
			5 6 21 27	1.7'	0.1	12/9/2014 7:40		29.7' MEDIUM BROWN SANDY SHALE, FRACTURED, SATURATED
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-21
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	33	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	30 ft bgs	SAMPLE TIME	7:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
30							30	
			4			7:50		SANDY CLAY, SATURATED
			7					31.0' MEDIUM YELLOW BROWN SANDY
			9					CLAY W/SHALE FRAGMENTS, DAMP
			10	1.0'				
32							32	
								AUGERING TO 33' TO SET WELL
34							34	
36							36	
38							38	
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-22
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	33.75	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			21			9:40		0.0 BROWN SILTY CLAY AND
			11					MOSTLY GRAY GRAVEL, DRY
			10					
			14	0.7'	0.2			
2							2	
			10			10:25		2.0 BROWN SILTY CLAY & SHALE
			4					GRAVEL WITH WEATHERED GRAY SHALE,
			8					DRY
			9	1.2'	0.2			
4							4	
			4			10:35		
			8					NO RETURN
			13					
			8	NR	NA			
6							6	
			7			10:45		6.0 YELLOW GRAY SILTY CLAY
			10					AND SHALE GRAVEL, DRY
			12					
			9	1.4	0.4			
8							8	
			6			10:50		
			11					8.0 YELLOW GRAY SILTY CLAY
			6					AND SHALE GRAVEL, DRY
			22	1.7	0.4			
10							10	

ELEV: 1295.76
LAT: 39°41'52.88" N
LON: 80°53'57.04" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-22
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	33.75	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			4			11:00		10.0 DARK RED BROWN CLAY, DAMP
			7					10.5' MEDIUM YELLOW BROWN SILTY
			4					CLAY W/FRACTURED SHALE FRAGMENTS,
			5	1.4'	0.4			DAMP
12							12	
			7			11:05		12.0 YELLOW GRAY SILTY CLAY
			4					W/SHALE GRAVEL, DRY
			4					
			6	1.3'	0.3			
14							14	
			9			11:15		14.0 YELLOW GRAY SILTY CLAY
			7					W/SHALE GRAVEL, DRY
			7					
			6	1.2'	0.1			
16							16	
			4			11:25		16.0 YELLOW GRAY SILTY CLAY
			13					W/SHALE GRAVEL, DRY
			14					17.5'-17.75' BROWN RED SILTY CLAY
			26	1.6'	0.3			W/SHALE GRAVEL, DRY
18							18	
			9			11:30		18.0'-19.0' YELLOW GRAY SILTY CLAY
			9					& SHALE GRAVEL, DRY
			9					
			10	1.5'	0.0			19.0'-20.0' RED BROWN SILTY CLAY
20							20	& SHALE GRAVEL, DAMP

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-22
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	33.75	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
20							20
			7			11:35	20.0 YELLOW GRAY SILTY CLAY & SHALE
			8				GRAVEL
			9				21.0'-21.5' GRAY SILT AND SHALE GRAVEL
			9	1.2'	0.1		21.0'-22.0' BROWN RED SILTY CLAY
22							22 SHALE GRAVEL
			6			11:40	
			8				22.0 YELLOW GRAY TO SLIGHTLY BROWN
			8				SILTY CLAY & SHALE GRAVEL, DAMP
			9	1.75'	0.0		
24							24
			7			11:50	
			7				24.0 YELLOW GRAY & RED BROWN
			7				SILTY CLAY & SHALE GRAVEL,
			7	1.15'	0.0		DAMP
26							26
			10			12:40	
			12				BROWN RED TO TURNING YELLOW GRAY
			15				SILTY CLAY & SHALE GRAVEL-DRY
			14	1.85'	0.0		
28							28
			13			12:45	
			22				28.0 BROWN RED TO TURNING YELLOW GRAY
			23				SILTY CLAY & SHALE GRAVEL, DRY
			36	1.3'	0.0		
30							30

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-22
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	33.75	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
30							30	
			16			13:00		30.0 BROWN RED SILTY CLAY
			25					W/LITTLE YELLOW GRAY SILTY CLAY
			20					W/SHALE GRAVEL
			21	1.65'	0.0			SOFT DAMP AREA BETWEEN 31.5'-31.75'
32							32	
			11			13:15		
			12					32.0 YELLOW GRAY SILTY CLAY &
			18					WEATHERED SHALE, DRY
			50/3"	1.2'	0.0			AUGER REFUSAL & SPOON REFUSAL
34							34	@ 33.75'
36							36	
38							38	
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-23
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	37	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	ROAD SURFACE - LIGHT GRAY GRAVEL
			3			14:35		AND SAND, DAMP
			6					0.2' DARK YELLOW BROWN SILTY CLAY,
			6					DAMP, SHALE FRAGMENTS
			6	0.9'	0.0			
2							2	
			4			14:45		2.0 DARK YELLOW BROWN SILTY CLAY
			5					DAMP, SHALE FRAGMENTS
			7					
			9	0.9'	0.0			
4							4	
			6			14:50		4.0 MEDIUM OLIVE BROWN SILTY CLAY,
			8					W/SHALE FRAGMENTS, DAMP
			6					
			7	1.5'	0.0			
6							6	
			7			15:00		6.0 MEDIUM OLIVE BROWN SILTY CLAY,
			9					W/SHALE FRAGMENTS, DAMP
			15					
			15	1.4'	0.0			
8							8	
			4			15:05		8.0 MEDIUM OLIVE BROWN SILTY CLAY,
			16					W/SHALE FRAGMENTS, DAMP
			20					
			16	1.3'	0.0			
10							10	

ELEV: 1295.35
LAT: 39°41'52.24" N
LON: 80°53'57.39" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-23
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	37	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., COLD, CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							
			43			15:20	10.0 MEDIUM OLIVE BROWN SILTY CLAY,
			15				DAMP, W/SHALE FRAGMENTS
			10				
			22	0.9'	0.0		
12							
			14			15:30	12.0 FRACTURED SANDY SHALE, DRY
			36				W/SAND AND SILT
			23				12.6' DARK BROWN SILT, DAMP
			10	1.4'	0.0		W/CLAY-MOTTLING & IRON STAINING
14							
			12			15:40	NO RETURN
			6				
			5		-		
			7	NR			
16							
			5			15:50	16.0' FRACTURED DARK OLIVE
			8				BROWN SHALE, DRY
			10				16.5' MEDIUM YELLOW BROWN SILTY CLAY,
			9	1.0'	0.0		DAMP, SHALE FRAGMENTS
18							
			5			12/10/2014	
			11			13:15	19.3'-19.5' WET, SOFT
			17				19.5 DARK OLIVE BROWN CLAY,
			50/5"	1.7'	0.3		DAMP, SHALE FRAGMENTS
20							

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-23
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	37	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12/9/2014 14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	BECOMES REDDISH BROWN, DRY
			5			13:25		
			8					21.1' DARK YELLOW BROWN CLAY, DAMP
			20					W/SHALE FRAGMENTS
			11	1.6'	0.1			
22							22	
			8			13:35		
			6					23.2' BECOMES DARK REDDISH BROWN
			5					CLAY, DAMP, FEW SHALE FRAGMENTS
			9	1.7'	0.0			
24							24	
			7			13:45		
			8					25.0' DARK RED (PURPLE) CLAY W/GRAY
			14					MOTTLING, DRY
			15	1.3'	0.0			25.3' W/MEDIUM YELLOW SHALE FRAGM'TS
26							26	26.0' DARK RED CLAY, DRY
			5			13:55		
			8					
			10					27.0' MEDIUM YELLOW SHALE
			11	1.7'	0.0			FRAGMENTS, DRY
28							28	28.0' DARK RED CLAY, DAMP
			4			14:05		
			5					
			7					
			13	1.8'	0.0			
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-23
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	37	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12/9/2014 14:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
30							30	
			4			14:10		30.0 DARK RED CLAY, DAMP
			5					
			6					31.8' DARK YELLOW BROWN CLAY, DAMP
			8	0.6'	0.0			W/SHALE FRAGMENTS
32							32	
			0			14:20		32.0 DARK YELLOW BROWN CLAY, DAMP
			3					W/SHALE FRAGMENTS
			5					
			9	1.7'	0.0			
34							34	
			7			14:30		34.0 GRAY BROWN CLAY-DAMP
			9					35.0' DARK RED BROWN SHALE
			16					FRACTURED, DAMP
			22	1.7'	0.0			35.5' OLIVE BROWN SHALE, DRY,
36							36	FRACTURED
			10			14:50		
			18					
			50/1"	0.9'	0.0			REFUSAL @ 37.1'
38							38	
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-24
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	25	DATE	12/9/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., CALM WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			5 7 10 6	0.8'	1.1	15:35		0.0 GRAY GRAVEL WITH LITTLE BROWN SILTY CLAY & SHALE GRAVEL, DRY
2							2	
			5 7 8 9	NR	--			NO RETURN
4							4	
			8 10 7 6	1.7'	1.2	16:15		4.0 YELLOW GRAY SILTY CLAY W/SHALE GRAVEL, DRY
6							6	
			5 7 6 6	1.4'	2.1	16:25		6.0 YELLOW GRAY W/LITTLE RED BROWN SILTY CLAY, SHALE GRAVEL, DRY
8							8	
			10 25 8 7	1.2'	3.1	17:00		8.0 GRAY SILTY CLAY W/SHALE GRAVEL & WEATHERED SHALE, DRY
10							10	

ELEV: 1296.27
LAT: 39°41'51.55" N
LON: 80°53'57.67" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-24
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	25	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:10
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			5			8:25		10.0 GRAY YELLOW SILTY CLAY & SHALE
			5					GRAVEL, DRY
			10					
			4	0.9'	1.6			
12							12	
			4			8:35		12.0 YELLOW GRAY SILTY CLAY
			5					SHALE GRAVEL
			6					
			6	1.7'	1.9			
14							14	
			9			8:40		14.0 YELLOW GRAY SILTY CLAY
			10					W/SHALE GRAVEL, DRY
			6					
			12	1.5'	1.1			
16							16	
			6			8:50		16.0 YELLOW GRAY WITH LITTLE
			5					RED BROWN SILTY CLAY &
			6					SHALE GRAVEL, DAMP
			9	2.0'	2.8			
18							18	
			7			9:00		
			5					18.0 YELLOW GRAY & RED BROWN
			12					SILTY CLAY, SHALE GRAVEL, DAMP
			13	2.0'	2.4			
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-24
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	25	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:10
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
20							20
			4			9:10	20.0 YELLOW GRAY & RED BROWN
			4				SILTY CLAY W/GRAY AND RED
			22				SHALE GRAVEL, DAMP
			17	1.7'	2.3		
22							22
			12			9:30	22.0'-22.5' YELLOW GRAY SILTY CLAY,
			22				LITTLE SHALE GRAVEL
			30				22.5'-23.5' RED BROWN SILTY CLAY
			41	1.7'	0.8		W/LITTLE SHALE GRAVEL
24							23.5' YELLOW GRAY SILTY CLAY GRAVEL
							24
			5			9:55	24.0' BROWN SILTY CLAY LITTLE DARK
			20				BROWN SILTY CLAY & LITTLE GRAVEL
			35	1.0'			GRAY YELLOW SILTY CLAY
			50/5"		0.9		25.0' WEATHERED SHALE
26							AUGER REFUSAL @ 25.0'
							26
28							28
30							30

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-25
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	23	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	11:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			6 8 8 8	0.5'	0.5	11:00		0.0 GRAY GRAVEL & BROWN SILTY CLAY, DRY TO DAMP
2							2	
			3 5 5 6	1.2'	1.0	11:40		2.0 BROWN SILTY CLAY & LARGE RED SHALE GRAVEL, DRY
4							4	
			3 5 12 7	1.5'	1.1	11:45		4.0 GRAY BROWN & YELLOW SILTY CLAY WITH SHALE GRAVEL, DRY
6							6	
			20 30 19 17	1.25'	1.4	12:00		6.0 YELLOW GRAY SILTY CLAY & SHALE GRAVEL, DRY
8							8	
			3 5 7 9	1.7'	1.1	12:05		8.0 YELLOW GRAY SILTY CLAY & SHALE GRAVEL, DRY
10							10	

ELEV: 1296.10
LAT: 39°41'51.91" N
LON: 80°53'57.51" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-25
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	23	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	11:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			4			12:15		10.0 YELLOW GRAY W/LITTLE RED BROWN
			4					SILTY CLAY W/SOME GRAY SHALE
			21					
			9	1.4'	1.6			
12							12	
			9			12:30		12.0 YELLOW GRAY W/LITTLE RED BROWN
			2					SILTY CLAY & GRAY SHALE GRAVEL
			13					
			46	1.5'	1.6			
14							14	
			50/2"	0.2'	1.5	12:40		14.0 BROWN GRAY SILTY CLAY
16							16	
			4			12:55		16.0 YELLOW BROWN SILTY CLAY W/LITTLE
			4					GRAY SHALE GRAVEL, DAMP
			6					
			7	0.7'	1.5			
18							18	
			9			13:05		18.0 BROWN TO RED BROWN
			13					SILTY CLAY W/LITTLE SHALE GRAVEL
			17					DAMP TO WET
			50	1.7'	1.0			
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-25
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	23	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	11:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			10 20 50/5"	NR	NA	13:15		NO RETURN, SPOON WAS WET
22							22	
24							24	
26							26	
28							28	
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-26
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	8	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	14:50
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			12 14 19 20	1.7'	0.4	15:05		0.0'-1.5' GRAY SILTY GRAVEL, DRY 1.5'-2.0' YELLOW SILTY CLAY, DRY
2							2	
			15 50/3"	0.5'	0.6	15:15		2.0 YELLOW SILTY CLAY-DRY SPOON REFUSAL @ 2.75'
4							4	
			40 45 20 50/5"	1.8'	0.6	15:35		4.0'-5.0' YELLOW BROWN SILTY CLAY W/LITTLE GRAVEL SHALE, DRY 5.0'-6.0' YELLOW SILTY CLAY TO WEATHERED SHALE, DRY
6							6	
			50 50/5"	1.0'	11.7	15:40		GRAY SILTY WEATHERED SHALE SPOON REFUSAL @ 7.0' AUGER REFUSAL @ 8.0'
8							8	
10							10	

ELEV: 1296.67
LAT: 39°41'51.60" N
LON: 80°53'56.60" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-27
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	23	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	18 ft bgs	SAMPLE TIME	16:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	0.0 ROAD BASE-LIGHT GRAY GRAVEL & SAND, MOIST
			5 7 9 18	0.7'	0.7	16:00		1.0' MEDIUM YELLOW BROWN SILTY CLAY, MOIST
2							2	
			7 6 9 8	1.3'	0.3	16:05		2.0 REDDISH BROWN CLAY, DAMP W/YELLOW BROWN SHALE FRAGMENTS
4							4	
			16 10 5 12	NR	--	16:25		4.0 SANDSTONE GRAVEL IN SHOE BROWN GRAY, DRY
6							6	
			6 5 2 11	1.3'	0.0	16:35		6.0 GRAY BROWN CLAY, DAMP/MOIST W/GRAY BROWN SHALE FRAGMENTS
8							8	
			5 10 16 33	1.8'	0.1	16:40		8.0 BECOMES BROWN-DAMP 9.5' YELLOW BROWN SANDY SHALE-DRY FRACTURED
10							10	

ELEV: 1297.07
LAT: 39°41'51.17" N
LON: 80°53'57.65" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-27
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	23	DATE	12/10/2014
DRILLER(s)		WATER LEVEL	18 ft bgs	SAMPLE TIME	16:00
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	O.C., LIGHT SNOW	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			11			16:50		10.0 DARK YELLOW BROWN SANDY CLAY, DRY
			32					1.1' YELLOW BROWN SHALE, DRY
			16					WEATHERED-FRACTURED
			18	1.5'	0.0			
12							12	
			25			17:00		12.0 YELLOW BROWN SHALE, DRY,
			31					WEATHERED-FRACTURED
			37					13.5' W/LITTLE DARK RED MOTTLING
			45	1.5'	0.0			
14							14	
			18			17:10		14.0' NO RED MOTTLING
			13					
			22					
			18	1.7'	0.0			
16							16	
			16			12/11/2014		16.0 YELLOW BROWN SHALE, DRY,
			20			8:05		WEATHERED-FRACTURED
			26					
			21	1.8'	0.0			17.8' TRACE GRAY MOTTLED CLAY,
18							18	FRACTURED
			5			8:15		18.0' YELLOW BROWN SANDY/GRAVELY CLAY
			20					SATURATED
			26					18.5' YELLOW BROWN SHALE, DAMP
			28	1.8'	0.0			
20							20	ADVANCED TO 23'
								SETTING WELL AT 25'

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-28
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	16.75	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:10
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			17			9:15		0.0 GRAY GRAVEL SILTY CLAY, DRY
			32					
			30					
			8	1.0'	1.1			
2							2	
			20			9:20		2.0'-3.0' GRAY GRAVEL & SILTY CLAY, DRY
			15					
			10					3.0'-4.0' RED BROWN SILTY CLAY
			18	1.0'	1.1			
4							4	
			10			9:40		
			11					4.0 YELLOW SILTY CLAY W/LITTLE
			14					SHALE GRAVEL
			25	1.7'	1.1			
6							6	
			5			10:00		6.0'-7.5' YELLOW SILTY CLAY
			12					& SHALE GRAVEL
			17					7.5'-8.0' BROWN SANDY CLAY
			50	1.75'	1.3			& BROWN SANDSTONE GRAVEL
8							8	
			17			10:10		8.0 YELLOW SILTY CLAY & LITTLE SHALE
			38					GRAVEL
			49					9.0'-9.5' BROWN SANDSTONE, DRY
			41	1.6'	1.2			
10							10	

ELEV: 1296.88
LAT: 39°41'50.90" N
LON: 80°53'57.22" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-28
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	16.75	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:10
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			12			10:15		10.0 YELLOW SILTY CLAY & SHALE
			38					GRAVEL (LITTLE GRAVEL)
			40					10.75'-11.0' SOFT CLAY
			48	2.0'	1.4			
12							12	
			32			10:40		12.0 YELLOW SILTY CLAY WITH
			50/3"	1.0'	0.5			SOME SHALE GRAVEL, DRY
								SPOON REFUSAL @ 12.75'
14							14	
			30			10:50		14.0 RED-BROWN TO TURNING
			50/3"	1.0'	0.5			RED YELLOW SILTY CLAY
								& RED SHALE GRAVEL, DRY
								SPOON REFUSAL @ 14.75'
16							16	
			46			11:10		16.0 YELLOW WEATHERED SHALE
			50/3"	1.0'	0.6			SPOON REFUSAL @ 16.75'
								IRON STAINING IN ROCK, DRY
18							18	
								TERMINATE BORING @ 16.75'
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-29
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	10:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD MATERIAL-SAND & GRAVEL
			23 36 28 11	1.2'	0.4	10:25		GRAY, DAMP, LOOSE
2							2	
			5 6 5 4	NR	--	10:35		NO RETURN-SPOON EXTERIOR WET
4							4	
			2 3 2 3	NR	--	10:45		NO RETURN
6							6	
			3 6 6 6	0.7'	0.0	10:55		MEDIUM YELLOW BROWN CLAY, DAMP 7.8' WEATHERED SANDSTONE FRAGMENTS, VERY SOFT, DAMP
8							8	
			4 5 6 9	0.6'	0.0	11:00		8.0 MEDIUM RED BROWN CLAY, SOFT, DAMP
10							10	

ELEV: 1296.94
LAT: 39°41'50.38" N
LON: 80°53'55.98" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-29
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	10:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							10
			4			11:05	10.0 MEDIUM RED BROWN CLAY, SOFT, DAMP
			4				
			5				
			9	1.4'	0.0		
12							12
			4			11:15	12.0 DARK RED BROWN CLAY, DAMP
			5				
			7				
			8	0.5'	0.0		13.9' STICK OF WOOD-POSSIBLE
14							14 BROOM HANDLE
			4			11:25	14.0 DARK RED BROWN CLAY, DAMP
			4				W/LITTLE SHALE FRAGMENTS
			6				
			7	0.5'	0.0		
16							16
			4			11:35	16.0 DARK RED BROWN CLAY, DAMP
			6				W/LITTLE SHALE FRAGMENTS
			3				16.5' YELLOW BROWN SANDY CLAY
			9	1.3'	0.0		17.0' DARK RED BROWN CLAY, DAMP
18							18
			4			11:45	18.0 DARK RED BROWN CLAY, DAMP
			4				
			7				
			9	1.5'	0.0		19.0' LITTLE SHALE
20							20

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-29
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	29	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	10:20
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			5 4 6 9	0.6'	0.0	12:15		20.0 DARK RED BROWN CLAY, DAMP W/LITTLE SHALE FRAGMENTS
22							22	
			6 8 5 10	0.6'	0.0	12:25		22.0 MEDIUM GRAY BROWN SILT W/SHALE FRAGMENTS, DRY 23.8' ORANGE GRAVEL FRAGMENTS & STRAW PIECES
24							24	
			27 18 15 24	NR	--	12:35		FRACTURED SHALE FRAGMENTS IN SHOE
26							26	
			21 50/4"	0.7'	0	12:45		26.0 DARK GRAY CLAY/SHALE, DRY
28							28	
			41 50/3"	0.5'	0	12:55		28.0 DARK GRAY SANDSTONE, HARD, DRY REFUSAL @ 29.0'
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-30
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	21	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:46
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
0							
			30			12:00	PAD - WHITE GRAVEL & YELLOW SILTY CLAY
			12				WET
			6				
			8	1.5'	0.2		
2							
			3			12:15	2.0 RED BROWN SILTY CLAY
			3				& LITTLE GRAVEL, DAMP
			7				
			7	1.2'	0.1		
4							
			3			12:20	4.0 RED BROWN & YELLOW
			5				SILTY CLAY WITH SOME
			6				RED SHALE GRAVEL, DAMP
			7	1.4'	0.9		
6							
			2			12:30	6.0 RED-BROWN & YELLOW SILTY
			2				CLAY W/RED & YELLOW SHALE GRAVEL
			2				
			2	1.9'	1.3		7.8'-8.0' GRAY SILTY CLAY W/ORGANICS
8							
			1			12:40	8.0 RED BROWN, YELLOW & GRAY
			20				SILTY CLAY WITH SOME
			18				SHALE GRAVEL
			7	1.1'	1.2		9.0'-9.5' GRAVEL LAYER SHALE
10							

ELEV: 1297.05
LAT: 39°41'50.61" N
LON: 80°53'56.84" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-30
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	21	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:46
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			3 6 7 8	2.0'	3.2	12:45		10.0'-10.75' RED BROWN GRAY & YELLOW SILTY CLAY & SHALE GRAVEL 10.75'-12.0' YELLOW SILTY CLAY & SHALE GRAVEL-DRY
12							12	
			30 50/3"	0.6'	1.7	13:05		12.0 YELLOW SILTY CLAY WITH LITTLE SHALE GRAVEL THEN HARD TO WEATHERED SHALE GRAVEL
14							14	
			8 30 35 40	2.0'	2.5	13:15		14.0 YELLOW SILTY CLAY WITH TRACE OF SHALE GRAVEL, DRY
16							16	
			22 50/4"	1.0'	3.1	13:30		16.0 YELLOW SILTY CLAY AND SHALE GRAVEL
18							18	
			40 48 34 50	2.0'	2.0	13:55		18.0 YELLOW SILTY CLAY AND SHALE GRAVEL, DRY
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-30
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	21	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:46
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			27			14:00		20.0'-21.0' YELLOW SILTY CLAY
			30					TO WEATHERED SHALE
			35					21.0'-21.75' RED BROWN WEATHERED
			50/4"	1.7'	2.6			SHALE
22							22	SPOON REFUSAL @ 21.75'
24							24	
26							26	
28							28	
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-31
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/tc	BORING DEPTH (ft bgs)	30	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	13:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	PARTLY CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30's	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-GRAVEL & SAND, GRAY, DAMP
			12 30 13 7	1.1'	45.1	13:50		
2							2	
			5 6 8 11	1.0'	135.0	14:10		3.8' DARK GRAY, WET, PETROLEUM ODOR,
4							4	
			5 6 7 12	0.5'	41.9	14:20		4.0 MEDIUM RED BROWN CLAY, DAMP W/LITTLE SHALE FRAGMENTS
6							6	
			5 13 17 16	0.9'	28.5	14:30		6.0 MEDIUM RED BROWN CLAY, DAMP W/LITTLE SHALE FRAGMENTS 7.5' DARK ORANGE BROWN HIGHLY WEATHERED SANDSTONE,
8							8	SOFT, MOIST
			3 7 13 16	0.9'	6.7	14:40		8.0 DARK BROWN CLAY, DAMP 9.5' BECOMES WET, VERY SOFT 9.7' DAMP
10							10	

ELEV: 1296.62
LAT: 39°41'50.22" N
LON: 80°53'55.56" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-31
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	30	DATE	12/12/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	12/11/2014 13:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							10
			4			12:00	10.0'-11.5' BROWN RED SILTY CLAY
			6				WITH TRACE OF SHALE GRAVEL
			9				
			9	1.0'	3.4		11.5'-12.0' YELLOW SILTY CLAY W/SHALE
12							12 GRAVEL
			4			12:50	12.0 WET RED BROWN CLAY TO TURNING
			6				DRY W/CLAY SILTY CLAY
			11				WATER FROM ABOVE
			17	1.1'	6.1		
14							14 14.0'-14.75' RED BROWN SILTY CLAY, WET
			5			13:05	
			6				
			9				
			9	1.2'	4.2		14.75'-16.0' RED BROWN YELLOW SILTY
16							16 CLAY, WET - WATER FROM ABOVE
			4			13:10	16.0'-16.75' RED BROWN & YELLOW, WET
			7				SILTY CLAY, TRACE SHALE GRAVEL
			11				16.75'-17.75' RED BROWN SILTY CLAY, WET
			13	1.2'	2.8		17.75'-18.0' RED BROWN & YELLOW SILTY
18							18 CLAY & TRACE SHALE GRAVEL
			3			13:20	
			7				18.0 RED BROWN & YELLOW SILTY CLAY
			9				WITH TRACE OF SHALE GRAVEL, WET
			15	1.5'	3.0		
20							20

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-31
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	30	DATE	12/12/2014
DRILLER(s)		WATER LEVEL	20 ft bgs	SAMPLE TIME	12/11/2014 13:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			5			13:30		20.0 BROWN RED & YELLOW GRAY
			9					SILTY CLAY WITH LITTLE SHALE
			11					GRAVEL, WET, TRACE
			10	1.4'	3.1			ORGANIC MATERIALS
22							22	
			0			13:40		22.0 BROWN RED & YELLOW GRAY SILTY CLAY
			3					WITH TRACE SHALE GRAVEL & TRACE OF
			4					ORGANIC MATERIAL, WET
			4	1.1'	4.2			
24							24	
			2			13:50		24.0 BROWN RED SILTY CLAY
			2					WITH ORGANIC MATERIAL (TRACE)
			3					& TRACE SHALE GRAVEL, PIECE OF
			4	1.0'	4.2			PLASTIC LINER @ 24.0'
26							26	
			0			14:00		26.0'-27.0' BROWN RED SILTY CLAY
			4					WITH TRACE SHALE GRAVEL-WET
			4					
			18	1.0'	3.9			27.0'-28.0' GRAY RED SILTY CLAY
28							28	WITH IRON STAINING, DRY
			9			14:15		28.0 GRAY RED SILTY CLAY
			39					WITH IRON STAINING, DRY
			29					
			50/4"	1.0'	4.3			SPOON REFUSAL @ 29.75'
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-32
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	31	DATE	12/11/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CLEAR	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-GRAVEL & SAND-GRAY, MOIST
			16 12 8 7	1.0'	5.2	15:50		1.0' BROWN SILTY CLAY, DAMP
2							2	
			3 4 7 50/5"	1.0'	1.4	16:00		2.0 BROWN SILTY CLAY, DAMP W/LITTLE SHALE FRAGMENTS
4							4	
			48 11 8 9	1.8'	0.0	16:05		4.0 SANDSTONE FRAGMENTS, WEATHERED 4.5' YELLOW BROWN SILTY CLAY, DRY 5.5' RED BROWN CLAY, DAMP W/LITTLE SHALE FRAGMENTS
6							6	
			3 3 6 8	1.1'	0.0	16:15		6.0 YELLOW & RED BROWN SILTY CLAY W/SHALE LITTLE GRAVEL, DAMP
8							8	
			1 1 2 2	1.2'	0.0	16:45		8.0 RED-BROWN & YELLOW SILTY CLAY WITH A TRACE OF SHALE GRAVEL, TRACE OF ORGANIC MATERIAL, DAMP
10							10	

ELEV: 1296.46
LAT: 39°41'50.09" N
LON: 80°53'55.07" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-32
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	31	DATE	12/12/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12/11/2014 15:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS-OVERCAST	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Depth	Lithologic Description
10							10	
			3 5 11 17	1.7'	0.0	12/11/2014 16:55		10.0 RED BROWN SILTY CLAY WITH A TRACE OF FINE SHALE GRAVEL & TRACE OF YELLOW SILTY CLAY
12							12	
			3 3 8 6	2.0'	1.3	12/12/2014 8:00		12.0 RED BROWN WITH LITTLE YELLOW SILTY CLAY WITH TRACE OF SHALE GRAVEL, DAMP
14							14	
			2 6 3 17	1.7'	2.0	8:10		14.0 RED BROWN WITH TRACE OF YELLOW SILTY CLAY WITH TRACE OF SHALE GRAVEL, DAMP
16							16	
			3 6 8 10	1.25'	0.5	8:20		16.0 RED BROWN WITH TRACE OF YELLOW SILTY CLAY WITH TRACE OF SHALE GRAVEL, DAMP TO WET @ 17.0'
18							18	
			3 10 12 14	1.3'	1.7	8:30		18.0 RED BROWN WITH TRACE OF YELLOW SILTY CLAY WITH LITTLE RED SANDSTONE GRAVEL & TRACE OF SHALE GRAVEL, DAMP
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-32
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	31	DATE	12/12/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12/11/2014 15:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS-OVERCAST	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			3			8:55		20.0 RED BROWN WITH TRACE YELLOW
			17					SILTY CLAY WITH LITTLE RED
			20					SANDSTONE & SHALE GRAVEL
			24	1.2'	2.0			VOIDS IN MATERIAL, DAMP
22							22	
			6			9:10		22.0 RED BROWN SILTY CLAY WITH SOME
			12					RED SANDSTONE GRAVEL, YELLOW
			32					SHALE GRAVEL WITH VOIDS, DAMP
			28	1.1'	1.2			
24							24	
			4			9:40		24.0'-24.75' RED BROWN SILTY CLAY LITTLE
			6					SHALE GRAVEL, DAMP
			20					24.75'-26.0' GRAY WITH LITTLE YELLOW
			26	2.0'	1.8			SILTY CLAY WITH TRACE OF SHALE
26							26	GRAVEL & IRON STAINING, DAMP
			20			10:30		
			46					26.0 RED GRAY SILTY CLAY,
			50/5"	1.3'	4.3			VERY STIFF, DRY
28							28	
			27			12:10		28.0 RED GRAY SILTY CLAY,
			27					HARD, DRY
			28					
			30	1.0'	4.1			
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-32
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH/TC	BORING DEPTH (ft bgs)	31	DATE	12/12/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	12/11/2014 15:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT WINDS-OVERCAST	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	20s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
30							30	
			21 42 50/4"	1.0'	6.0	12:30		30.0 RED GRAY SILTY CLAY, HARD, DRY
32							32	
34							34	
36							36	
38							38	
40							40	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-33
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	19	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			2			9:20		0.0 BROWN SILTY CLAY WITH TRACE
			3					ORGANIC MATERIAL,
			4					DRY TO DAMP
			3	1.0'	3.0			
2							2	
			4			9:30		2.0 VERY LITTLE RECOVERY
			3					BROWN SILTY CLAY
			3					
			5	0.2'	2.1			
4							4	
			4			9:35		4.0 BROWN RED & YELLOW SILTY CLAY,
			3					DAMP
			3					
			3	0.6'	2.2			
6							6	
			3			9:45		6.0'-7.0' BROWN RED & YELLOW
			8					SILTY CLAY
			4					7.0'-8.0' BROWN MEDIUM SAND &
			6	0.9'	3.2			SANDSTONE GRAVEL, DRY
8							8	
			3			9:55		8.0 RED BROWN WITH TRACE
			4					YELLOW SILTY CLAY, DAMP
			5					
			6	1.25'	5.1			
10							10	

ELEV: 1293.92
LAT: 39°41'49.34" N
LON: 80°53'53.48" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-33
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	19	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:05
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	CLOUDY	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	40s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			3			10:00		10.0 RED-BROWN & YELLOW SILTY
			4					CLAY WITH TRACE SHALE GRAVEL, DAMP
			5					
			6	1.8'	4.2			
12							12	
			7			10:05		12.0 RED-BROWN & YELLOW SILTY CLAY
			8					WITH TRACE OF SHALE GRAVEL & TRACE
			8					OF ORGANIC MATERIAL
			4	1.1	2.0			
14							14	
			3			10:20		14.0'-15.0' RED BROWN & YELLOW SILTY CLAY
			4					TRACE OF SHALE GRAVEL, DAMP
			4					15.0'-16.0' RED BROWN SILTY CLAY &
			7	1.5'	1.1			WEATHERED RED SHALE, DAMP
16							16	
			3			10:30		16.0'-16.5' RED BROWN SILTY CLAY
			4					16.5'-17.0' RED BROWN & GRAY SILTY
			9					CLAY WITH SOME IRON STAINING
			9	1.5'	2.4			17.0'-18.0' GRAY SILTY CLAY WITH
18							18	LITTLE IRON STAINING
			14			10:40		18.0 GRAY YELLOW WEATHERED
			41					SHALE, DRY
			50/3"	1.2'	1.7			
								REFUSAL @ 19.25'
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-34
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	10	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:30
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-GRAVEL & SAND, DAMP
			7 7 9 8	1.0'	0.0	8:35		1.0' SOME BROWN SILTY CLAY
2							2	
			12 9 7 10	1.3'	0.0	8:45		2.0 DARK RED BROWN CLAY, DAMP W/YELLOW BROWN SHALE FRAGMENTS
4							4	LIGHT GRAY SANDSTONE FRAGM'TS IN SHOE
			20 17 24 27	1.4'	0.2	8:55		4.0 YELLOW BROWN SILTY SHALE, DRY, WEATHERED/FRACTURED
6							6	
			50/2"	0.2'	0.1	9:05		6.0 WEATHERED SANDY SHALE, DRY
8							8	
			27 35 37 50/4"	1.8'	0.2	9:12		8.0 DARK RED BROWNWEATHERED SHALE, DRY, FRACTURED
10							10	REFUSAL @ 9.9'

ELEV: 1293.06
LAT: 39°41'49.17" N
LON: 80°53'52.32" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-35
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	27	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-LIGHT GRAY GRAVEL W/SAND
			11			9:55		0.5' WET, FINE GRAVEL AND SAND
			10					0.7' MEDIUM BROWN CLAY, DAMP
			4					
			4	1.2'	0.7			
2							2	
			5			10:12		2.0 MEDIUM BROWN CLAY, DAMP
			7					
			9					
			13	0.9'	0.6			MEDIUM BROWN CLAY W/LITTLE
4							4	WEATHERED SANDSTONE FRAGMENTS
			5			10:24		NO RETURN
			5					
			10					
			11	NR	--			
6							6	
			5			10:35		6.0 MEDIUM YELLOW BROWN CLAY, DAMP
			5					
			6					
			8	0.8'	0.5			
8							8	
			4			10:45		8.0 DARK RED BROWN CLAY, DAMP
			6					
			9					
			11	0.6'	0.4			9.5' W/LITTLE ROOT FRAGMENTS
10							10	

ELEV: 1295.96
LAT: 39°41'49.85" N
LON: 80°53'54.44" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-35
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	27	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME	Lithologic Description
10							10
			0			10:55	10.0 DARK BROWN CLAY, SATURATED
			0				
			5				11.0' DARK RED BROWN CLAY, DAMP
			7	0.6'	0.2		
12							12
			7			10:58	12.0 DARK RED BROWN CLAY, DAMP
			8				
			10				
			10	0.4'	0.3		
14							14
			7			11:05	14.0 DARK RED BROWN CLAY, DAMP
			8				
			11				15.0' YELLOW BROWN CLAY,
			15	0.8'	0.2		DAMP, W/ LITTLE FRACTURED SHALE FRAGS
16							16
			4			11:15	16.0' DARK RED FRACTURED SHALE, DRY
			5				
			5				17.5' MEDIUM YELLOW BROWN CLAY,
			19	0.6'	0.4		DAMP W/LITTLE SILT
18							18
			11			11:25	18.0 MEDIUM YELLOW BROWN CLAY,
			5				DAMP W/LITTLE SILT
			11				
			14	0.7'	0.5		
20							20

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-35
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	27	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	9:45
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			5 11 14 16	0.6'	0.6	11:35		20.0' MEDIUM DARK YELLOW BROWN CLAY, DAMP 21.8' DARK RED BROWN CLAY, DAMP
22							22	
			4 7 9 15	0.2'	0.4	11:50		
24							24	
			7 25 36 50/5"	1.7'	0.4	12:05		24.0 DARK BROWN CLAY, DAMP SOMEMOTTLING
26							26	
			26 28 50/5"	0.6'	0.5	12:20		26.0 DARK BROWN SHALE, DRY REFUSAL @ 27.5
28							28	
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-36
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	21	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			22 28 10 8	1.0'	10.3	11:40		PAD - GRAY SILTY GRAVEL W/LITTLE BROWN SILTY CLAY, DAMP
2							2	
			4 4 5 4	NR	NA	12:00		NO RECOVERY
4							4	
			3 4 4 5	1.1'	8.9	12:10		4.0 RED BROWN & YELLOW SILTY CLAY WITH SOME SHALE GRAVEL, DAMP
6							6	
			4 3 2 3	0.75'	4.6	12:15		6.0 RED BROWN & YELLOW SILTY CLAY WITH TRACE SHALE GRAVEL
8							8	
			3 3 6 8	0.8'	3.6	12:25		8.0 RED BROWN WITH LITTLE YELLOW SILTY CLAY WITH SOMEYELLOW GRAY SHALE GRAVEL. GRAVEL INCREASING WITH DEPTH
10							10	

ELEV: 1295.99
LAT: 39°41'49.70" N
LON: 80°53'53.91" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-36
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	21	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	11:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			5			12:31		10.0'-11.5' RED BROWN & YELLOW
			5					SILTY CLAY & LITTLE SHALE GRAVEL-DAMP
			4					11.5'-12.0' BROWN RED SAND & SANDSTONE
			3	0.7'	5.1			GRAVEL, DAMP
12							12	
			5			12:40		VERY LITTLE RECOVERY
			4					GRAY SILTY SHALE GRAVEL
			5					WITH VERY LITTLE TRACE OF RED
			3	0.1'	4.6			BROWN SILTY CLAY, DRY
14							14	
			3			12:55		14.0'-15.5' RED BROWN SILTY CLAY WITH
			8					TRACE OF YELLOW GRAY SILTY CLAY
			16					SHALE TRACE GRAVEL
			10	1.7'	2.1			15.5'-16.0' YELLOW GRAY SAND MEDIUM
16							16	& SANDSTONE GRAVEL-DRY
			4			13:05		16.0'-17.0' BROWN YELLOW SILTY CLAY &
			8					TRACE SHALE GRAVEL
			9					17.0'-18.0' RED BROWN SILTY CLAY
			12	1.2'	3.6			TURNING TO WEATHERED RED SHALE
18							18	
			4			13:20		18.0'-18.5' RED BROWN SILTY CLAY
			10					18.5'-19.5' RED BROWN SILTY CLAY
			14					WITH IRON STAINING, DRY
			20	2.0'	3.9			19.5'-20.0' GRAY YELLOW SILTY CLAY, HARD
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-36
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)		DATE	12/15/2014
DRILLER(s)		WATER LEVEL	ft bgs	SAMPLE TIME	11:35
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
20							20	
			31			15:35		20.0 GRAY YELLOW WEATHERED
			50/4"	0.5"	4.8			SHALE
								SPOON REFUSAL @ 20.75'
22							22	
24							24	
26							26	
28							28	
30							30	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-37
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	7	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	13:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			35			13:50		0.0'-1.5' PAD - GRAY SILTY GRAVEL, DRY
			41					1.5'-2.0' RED BROWN & YELLOW
			36					SILTY CLAY LITTLE SHALE
			13	1.0'	2.3			FRAGMENTS (TRACE)
2							2	
			5			14:00		2.0'-2.5' RED BROWN & YELLOW SILTY CLAY
			9					2.5'-3.5' GRAY YELLOW SILTY CLAY
			10					WITH ORGANIC (ROOTS)
			13	1.75'	3.9			3.5'-4.0' RED BROWN SILTY CLAY
4							4	
			7			14:20		4.0'-4.5' RED BROWN SILTY CLAY
			9					4.5'-6.0' YELLOW SILTY CLAY
			21					& WEATHERED YELLOW SHALE
			36	2.0'	1.4			
6							6	
			22			14:40		6.0'-6.75' YELLOW WEATHERED
			50/4"	0.75'	1.3			SHALE
								SPOON REFUSAL @ 6.75'
8							8	
10							10	

ELEV: 1296.95
LAT: 39°41'50.53" N
LON: 80°53'54.92" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-38
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	4	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:40
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			16			15:40		PAD - WHITE SILTY GRAVEL, DRY
			28					
			31					
			25	1.0'	3.6			
2							2	
			10			15:50		2.0'-2.75' WHITE SILTY GRAVEL, DRY
			18					2.75'-4.0' YELLOW SILTY CLAY TO
			50					TURNS TO WEATHERED SHALE, DRY
			50/5"	1.75'	1.9			
4							4	
			50/3"	0.2'	1.1	16:00		4.0 YELLOW WEATHERED SHALE
								SPOON REFUSAL @ 4.25'
6							6	
8							8	
10							10	

ELEV: 1296.70
LAT: 39°41'50.76" N
LON: 80°53'54.79" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-39
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	12	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:15
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	PAD-GRAVEL & SAND, LIGHT GRAY, DRY
			9 11 12 20	1.0'	10.5	15:15		1.0 YELLOW BROWN CLAY, DAMP
2							2	
			4 5 7 8	0.8'	14.8	15:25		2.0 YELLOW BROWN SILTY CLAY W/LITTLE RED CLAY
4							4	
			13 11 6 9	1.5'	2.5	15:35		4.5' YELLOW BROWN SILTY CLAY, DAMP, TRACE SANDY SHALE FRAGMENTS 4.7' DARK RED BROWN CLAY W/GRAY MOTTLING & HIGHLY WEATHERED
6							6	SHALE FRAGMENTS
			5 8 6 4	1.6'	1.7	15:50		7.0' DARK RED PURPLE CLAY 7.2' YELLOW BROWN WEATHERED SHALE, FRACTURED, DRY
8							8	
			5 8 10 14	0.5'	1.8	16:00		8.0 YELLOW BROWN WEATHERED SHALE, FRACTURED, DRY W/LITTLE GRAY
10							10	

ELEV: 1296.06
LAT: 39°41'50.11" N
LON: 80°53'54.27" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-39
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	12	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	15:15
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
10							10	
			13			16:10		10.0 MEDIUM YELLOW BROWN WEATHERED
			50/2"	0.5'	1.7			SHALE, FRACTURED, DAMP
12							12	
			45			16:20		
			50/2"	0.5'	0.9			REFUSAL
14							14	
16							16	
18							18	
20							20	

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-40
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	4.5	DATE	12/15/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	16:25
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	OVERCAST, LIGHT WINDS	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	30s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			20			16:30		0.0'-1.75' WHITE SILTY GRAVEL
			19					
			15					
			9	1.2'	3.2			1.75'-2.0' RED BROWN SILTY CLAY, TRACE
2							2	SHALE GRAVEL, DRY
			15			16:40		VERY LITTLE RECOVERY
			50/3"	0.2'	3.5			RED BROWN SILTY CLAY
								TO WEATHERED RED SHALE, DRY
4							4	
			23			16:50		YELLOW SILTY CLAY, WEATHERED
			50/3"	0.75'	4.3			SHALE
								SPOON REFUSAL @ 4.75'
6							6	
8							8	
10							10	

ELEV: 1296.35
LAT: 39°41'50.60" N
LON: 80°53'53.97" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-41
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	TC	BORING DEPTH (ft bgs)	5.5	DATE	12/16/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	8:07
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	UPPER 40s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			28			8:10		0.0'-1.5' GRAVELWHITE WITH SILT
			29					& SAND-DAMP
			31					1.5'-2.0' RED BROWN & YELLOW
			16	1.2'	1.7			SILTY CLAY WITH TRACE
2							2	SHALE GRAVEL
			15			8:40		2.0 YELLOW SILTY CLAY &
			17					WEATHERED SHALE WITH TRACE
			50/3"	1.0'	2.8			IRON STAINING
4							4	
			18			8:45		4.0 YELLOW WEATHERED SHALE
			33					
			50/5"	1.2'	2.6			SPOON REFUSAL @ 5.4'
6							6	
8							8	
10							10	

ELEV: 1296.15
LAT: 39°41'50.37" N
LON: 80°53'54.08" W

Penn E&R
Environmental & Remediation, Inc.

SOIL BORING LOG

BORING ID	SB-42
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

GEOLOGIST	CMH	BORING DEPTH (ft bgs)	4.5	DATE	12/16/2014
DRILLER(s)		WATER LEVEL	NA ft bgs	SAMPLE TIME	7:50
DRILLING CO.	GEO-ENVIRONMENTAL	WEATHER	LIGHT RAIN	SAMPLE DEPTH	ft bgs
METHOD	HOLLOW STEM AUGER / SPLIT SPOON	TEMP.	UPPER 40s	SAMPLE DESC.	

Depth	USCS Classification	Run Number	Interval	Return	PID	SAMPLE ID, DEPTH & TIME		Lithologic Description
0							0	
			3 4 5 8	1.3'	0.1	8:15		0.0'-0.2' VEGETATION AND TOPSOIL, DAMP 0.2' MEDIUM YELLOW BROWN SILTY CLAY, TRACE YELLOW SANDY SHALE FRAGMENTS 1.2' BECOMES DARK RED CLAY, DAMP
2							2	
			10 15 50/5"	1.2'	0.4	8:25		3.0' BECOMES MEDIUM YELLOW BROWN SHALE, DRY, WEATHERED FRACTURED
4							4	
			50/4"	0.4'	0.3	8:35		4.0' FRACTURED, DRY YELLOW BROWN SANDY SHALE REFUSAL @ 4.5'
6							6	
8							8	
10							10	

ELEV: 1251.14
LAT: 39°41'48.02" N
LON: 80°53'53.80" W

APPENDIX B

Well Construction Diagrams

Penn E&R
Environmental & Remediation, Inc.

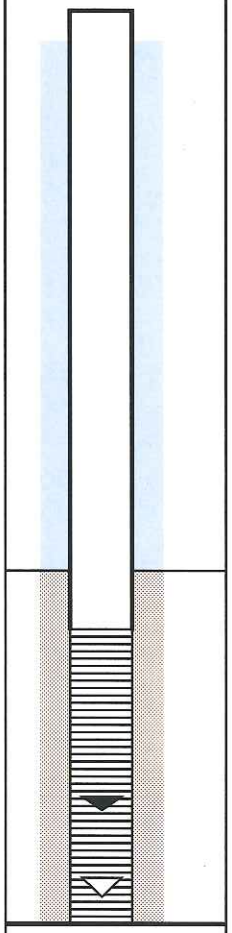
MONITORING WELL INSTALLATION LOG

BORING ID	SB-15
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC		WELL DIAMETER	2"	inches	DATE	December 5, 2014	
DRILLER	------		WELL DEPTH	30.00	ft bgs	GROUT TYPE	N/A	
DRILLING CO.	GEO-ENVIRONMENTAL		WATER LEVEL (during)	▼ 26.00	ft bgs	TOP OF GROUT	N/A	ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON		WATER LEVEL (post)	▽ 28.71	ft bgs	PLUG TYPE	PURE GOLD CHIPS	
DRILL RIG	--------		RISER TYPE	SCH 40 PVC		TOP OF PLUG	0.00	ft bgs
OUTER CASING	--------		TOP OF RISER	0.5 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER	
WELL TYPE	GROUNDWATER MONITORING		SCREEN TYPE	SCH 40 0.10 SLOT		TOP OF SAND	18.00	ft bgs
BORING DIAMETER	6.5	inches	SCREEN LENGTH	10.00	ft	WELL YIELD	N/A	gallons
BORING DEPTH	30.00	ft bgs	TOP OF SCREEN	20.00	ft bgs	PUMP RATE	N/A	gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0			Fill	Silt w/Sand & Gravel	
			Fill	Pad Surface, Gravel & Dark Gray Sand	
			Fill	Olive Brown Weathered Shale & Clay, Damp	
5			Fill	Dark Olive Brown Shale Fractured, Damp w/some clay	
			Fill	Dark Red Highly Fractured, Damp	
			Fill	Yellow Brown Fractured Shale, Dry	
			Fill	Dark Red Clay w/Shale Frag, Damp	
10			Fill	Yellow Brown Fractured Shale, Dry	
			Fill	Yellow Brown Fractured Shale & Clay, Dry	
			Fill	Dark Red Fractured Shale, Damp	
			Fill	Yellow Brown Fractured Shale, Dry	
			Fill	Yellow Brown Sand & Clay, Damp	
			Fill	Yellow Brown Fractured Shale, Dry	
15			Fill	Yellow Brown Sandy Clay, Damp	
			Fill	Red Brown Clay, Med Soft, Wet	
			Fill	Yellow Brown Clay with Shale, Weathered Fractured, Dry	
20			Fill	Olive Gray Shale, Weathered, Fractured, Dry	
			Fill	R-B Clay/Weathered Shale, Damp, Fractured	
25			Fill	Sandy Gravel, Pebbles, Pea Gravel, Moist, Loose	
			Weathered Shale	Dark Red Weathered Shale, Damp, Some Mottling	
30					
35					

Well Installation Diagram



Drilling/Construction Details

ELEV: 1298.05

LAT: 39°41'52.90"N LON: 80°53'56.56"W

Bentonite 0' to 18'

Schedule 40, 2" diameter PVC riser

Sand from 18' to 30'

Slotted Screen from 20' to 30'

Notes:
ND - Non Detect

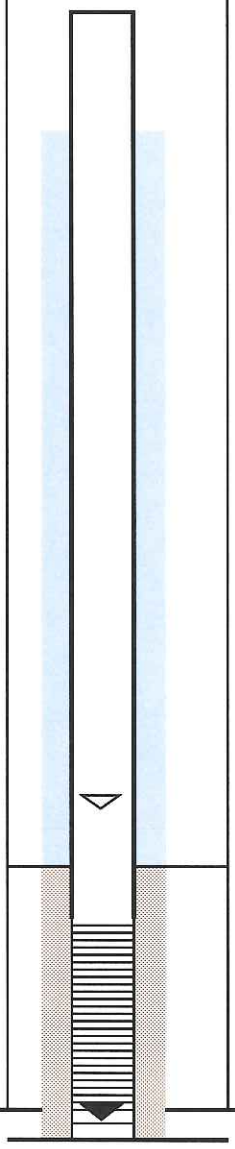
Penn E&R
Environmental & Remediation, Inc.

MONITORING WELL INSTALLATION LOG

BORING ID	SB-20
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC	WELL DIAMETER	2"	inches	DATE	December 8, 2014	
DRILLER	----	WELL DEPTH	39.00	ft bgs	GROUT TYPE	N/A	
DRILLING CO.	GEO-ENVIRONMENTAL	WATER LEVEL (during)	▼ 36.00	ft bgs	TOP OF GROUT	N/A	ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON	WATER LEVEL (post)	▽ 24.86	ft bgs	PLUG TYPE	PURE GOLD CHIPS	
DRILL RIG	----	RISER TYPE	SCH 40 PVC		TOP OF PLUG	2.00	ft bgs
OUTER CASING	----	TOP OF RISER	1.67 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER	
WELL TYPE	GROUNDWATER MONITORING	SCREEN TYPE	0.10 SLOT		TOP OF SAND	27.00	ft bgs
BORING DIAMETER	6.5 inches	SCREEN LENGTH	10.00	ft	WELL YIELD	----	gallons
BORING DEPTH	39.00 ft bgs	TOP OF SCREEN	29-39	ft bgs	PUMP RATE	----	gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0			Fill	Light Gray Gravel w/silty Sand, Damp	
			Fill	Med Yellow Brown Silt, Damp	
			Fill	Med Yellow Brown Silty Clay & Shale, Gravel, Damp	
5			Fill	Yellow & Brown Silty Clay & Shale, Gravel, Dry	
			Fill	Yellow Brown Silty Clay with Shale, Gravel, Dry	
10			Fill	Red Brown Clay, Damp, Shale Fragments	
			Fill	Med. Yellow Brown Clay, Damp, Yellow Brown Sandy Shale Fragments	
15			Fill	Dark Gray Sandy Shale Fragments, Dry	
			Fill	Med. Yellow Brown Clay, Damp w/Sandy Shale Fragments	
			Fill	Becomes Dark Red Brown, Damp	
20			Fill	Dark Red Brown Clay, Damp, Little Shale Fragments	
			Fill	Med. Yellow Brown Sandy Shale, Fractured, Damp	
			Fill	Dark Red Brown Clay, Damp, @ 23.2' Some Root Structure	
25			Fill	Yellow Brown Clay, Damp, Weathered Fractured Shale, Dry	
			Fill	Red Brown Clay, with Shale Fragments, Damp	
30			Sandy Shale	Med. Yellow Brown Sandy Shale, Damp, Fractured	
			Clay	Dark Red Brown Clay, Damp, to Yellow Brown Sandy Shale back to Clay	
35			Shale	Dark Red Shale, Dry, Fractured to Med Olive Brown Shale, back to Dark Red Shale, Dry, Fractured to 38'	



Drilling/Construction Details

ELEV: 1295.53

LAT: 39°41'53.78"N LON: 80°53'56.53"W

Bentonite 2' to 27'

Schedule 40, 2" diameter PVC riser

Sand from 27' to 39'

Slotted Screen from 29' to 39'

Total Depth = 39'

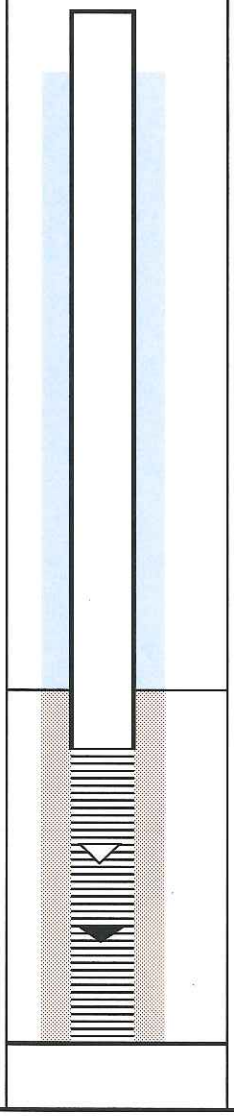
Penn E&R
Environmental & Remediation, Inc.

MONITORING WELL INSTALLATION LOG

BORING ID	SB-21
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC	WELL DIAMETER	2"	inches	DATE	December 9, 2014	
DRILLER	----	WELL DEPTH	33.00	ft bgs	GROUT TYPE	N/A	
DRILLING CO.	GEO-ENVIRONMENTAL	WATER LEVEL (during)	30.00	ft bgs	TOP OF GROUT	N/A	ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON	WATER LEVEL (post)	27.80	ft bgs	PLUG TYPE	PURE GOLD CHIPS	
DRILL RIG	----	RISER TYPE	SCH 40 PVC		TOP OF PLUG	0.00	ft bgs
OUTER CASING	----	TOP OF RISER	2.14 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER	
WELL TYPE	GROUNDWATER MONITORING	SCREEN TYPE	0.10 SLOT		TOP OF SAND	21.00	ft bgs
BORING DIAMETER	6.5 inches	SCREEN LENGTH	10.00	ft	WELL YIELD	----	gallons
BORING DEPTH	23.00 ft bgs	TOP OF SCREEN	23.00	ft bgs	PUMP RATE	----	gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0			Fill	Gray Road Material	
			Fill	Med. Yellow Brown Silty Clay, Damp, Little Sand & Shale Fragments	
			Fill	Dark Yellow Brown Clay w/little Fragments, Damp	
5			Fill	Dark Red Brown Shale Fractured, Dry to Dark Gray Shale to Med. Yellow Brown Shale, Dry	
			Fill	Olive Brown Silty Clay w/Shale Fragments, Damp	
10			Fill	Gray Yellow to Yellow Brown to Yellow Gray silty Clay with Shale Gravel, Dry	
15			Fill	Gray Silty Clay & Shale Gravel, Damp	
			Fill	Brown Red Silty Clay & Shale Gravel, Dry	
20			Fill	Gray Weathered Shale, Dry	
			Fill	Brown &Red Silty Clay & Shale Gravel, Damp	
			Fill	Gray Weathered Shale, Dry	
			Fill	Gray Yellow Silty Clay w/Shale Gravel	
			Fill	Brown Sandstone, Dry	
25			Silty Clay & Shale	Brown to Yellow Gray Silty Clay & Shale Gravel, Damp to Dry	
30			Sandy Shale	Med Brown Sandy Shale, Fractured, Saturated	
			Sandy Clay	Sandy Clay w/Shale Fragments, Damp	
35					



ELEV: 1295.59
LAT: 39°41'43.38"N LON: 80°53'56.78"W

Bentonite 0'-23'

Schedule 40, 2" diameter PVC riser

Sand 21'-33'

Slotted Screen 23'-33'

Notes:
ND - Non Detect

Penn E&R
Environmental & Remediation, Inc.

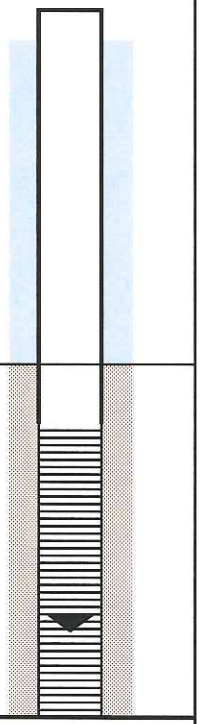
MONITORING WELL INSTALLATION LOG

BORING ID	SB-25
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC		WELL DIAMETER	2"	inches	DATE	December 10, 2014
DRILLER	----		WELL DEPTH	23.00	ft bgs	GROUT TYPE	N/A
DRILLING CO.	GEO-ENVIRONMENTAL		WATER LEVEL (during)	▼ 20.00	ft bgs	TOP OF GROUT	N/A ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON		WATER LEVEL (post)	DRY	ft bgs	PLUG TYPE	PURE GOLD CHIPS
DRILL RIG	----		RISER TYPE	SCH 40 PVC		TOP OF PLUG	0.00 ft bgs
OUTER CASING	----		TOP OF RISER	1.1 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER
WELL TYPE	GROUNDWATER MONITORING		SCREEN TYPE	0.10 SLOT		TOP OF SAND	11.00 ft bgs
BORING DIAMETER	6.5	inches	SCREEN LENGTH	10.00	ft	WELL YIELD	---- gallons
BORING DEPTH	23.00	ft bgs	TOP OF SCREEN	13.00	ft bgs	PUMP RATE	---- gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0			Fill	Pad Material	
				Brown Silty Clay, Dry to Damp	
				Brown Silty Clay & Large Red Shale Gravel, Dry	
5				Gray Brown & Yellow Silty Clay w/Shale Gravel, Dry	
			Fill	Yellow Gray Silty Clay & Shale Gravel, Dry	
10				Yellow Gray w/Little Red Brown Silty Clay & Gray Shale Gravel	
15			Fill	Brown Gray Silty Clay	
			Silty Clay & Shale Gravel	Yellow Brown to Red Brown Silty Clay w/Little Shale Gravel , Damp to Wet	
20				No Return, Spoon Wet	
25					
30					
35					

Well Installation Diagram



Drilling/Construction Details

ELEV: 1296.10

LAT: 39°41'51.91"N LON: 80°53'57.51"W

Bentonite 0'-11'

Schedule 40, 2" diameter PVC riser

Sand from 11'-23'

Slotted Screen from 13'-23'

Notes:
ND - Non Detect

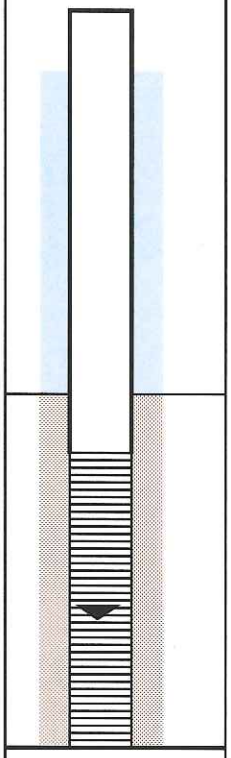
Penn E&R
Environmental & Remediation, Inc.

MONITORING WELL INSTALLATION LOG

BORING ID	SB-27
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC		WELL DIAMETER	2"	inches	DATE	December 11, 2014
DRILLER	----		WELL DEPTH	30.00	ft bgs	GROUT TYPE	N/A
DRILLING CO.	GEO-ENVIRONMENTAL		WATER LEVEL (during)	▼ 18.50	ft bgs	TOP OF GROUT	N/A ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON		WATER LEVEL (post)	DRY	ft bgs	PLUG TYPE	PURE GOLD CHIPS
DRILL RIG	----		RISER TYPE	SCH 40 PVC		TOP OF PLUG	0.00 ft bgs
OUTER CASING	----		TOP OF RISER	2.23 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER
WELL TYPE	GROUNDWATER MONITORING		SCREEN TYPE	0.10 SLOT		TOP OF SAND	11.00 ft bgs
BORING DIAMETER	6.5	inches	SCREEN LENGTH	10.00	ft	WELL YIELD	---- gallons
BORING DEPTH	23.00	ft bgs	TOP OF SCREEN	13.00	ft bgs	PUMP RATE	---- gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0			Fill	Road Base-Light Gray Gravel & Sand, Moist	
			Fill	Med Yellow Brown Silty Clay, Moist	
			Fill	Reddish Brown Clay, Damp, w/Yellow Brown Shale Fragments	
5			Fill	Sandstone Gravel in Shoe, Brown Gray, Dry	
			Fill	Gray Brown Clay, Damp/Moist w/Gray Brown Shale Fragments	
			Sandy Shale	Yellow Brown Sandy Shale-Dry Fractured	
10			Sandy Clay	Yellow Brown Sandy Clay, Dry	
			Shale	Yellow Brown Shale, Weathered and Fractured, Dry	
15			Clay	Trace Gray Mottled Clay, Fractured	
			Sandy/Gravely Clay & Shale	Yellow Brown Sandy/Gravely Clay Saturated to Yellow Brown Shale, Damp	
20					
25					
30					
35					



ELEV: 1297.07
LAT: 39°41'51.17"N LON: 80°53'57.65"W

Benonite 0'-11'

Schedule 40, 2" diameter PVC riser

Sand 11'-23'

Slotted Screen from 13'-23'

Notes:
ND - Non Detect

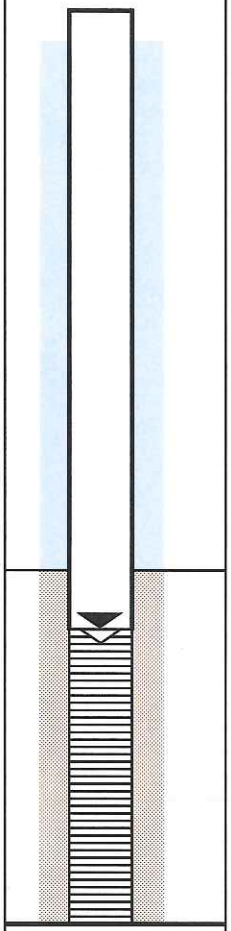
Penn E&R
Environmental & Remediation, Inc.

MONITORING WELL INSTALLATION LOG

BORING ID	SB-31
PROJECT NUMBER	NM6484
PROJECT NAME	EISENBARTH
SITE LOCATION	HANNIBAL, OH

PENN E&R	CMH/TC	WELL DIAMETER	2"	inches	DATE	December 12, 2014	
DRILLER	----	WELL DEPTH	30.00	ft bgs	GROUT TYPE	N/A	
DRILLING CO.	GEO-ENVIRONMENTAL	WATER LEVEL (during)	▼ 20.00	ft bgs	TOP OF GROUT	N/A	ft bgs
METHOD	HOLLOW STEM AUGER/SPLIT SPOON	WATER LEVEL (post)	▽ 21.24	ft bgs	PLUG TYPE	PURE GOLD CHIPS	
DRILL RIG	----	RISER TYPE	SCH 40 PVC		TOP OF PLUG	0.00	ft bgs
OUTER CASING	----	TOP OF RISER	0.61 ABOVE GROUND	ft bgs	SAND TYPE	#2 GLOBAL FILTER	
WELL TYPE	GROUNDWATER MONITOR	SCREEN TYPE	0.10 SLOT		TOP OF SAND	18.00	ft bgs
BORING DIAMETER	6.5 inches	SCREEN LENGTH	10.00	ft	WELL YIELD	----	gallons
BORING DEPTH	30.00 ft bgs	TOP OF SCREEN	20.00	ft bgs	PUMP RATE	----	gal/min

Depth	Water Level	PID	Lithology	Lithologic Description	Nft
0					
			Fill	Pad Material - Gravel & Sand, Gray, Damp. @ 3.8' Dark Gray, Wet, Petroleum Odor	
5			Fill	Medium Red Brown Clay, Damp w/Little Shale Fragments	
			Fill	Highly Weathered Sandstone, Soft, Moist	
			Fill	Dark Brown Clay, Damp, Becomes Wet, Very Soft, Damp at 9.7'	
10			Fill	Brown Red Silty Clay w/Trace Shale Gravel	
				Yellow Silty Clay w/Shale	
15			Fill	Red Brown to Yellow Silty Clay, Trace Shale Gravel, Wet	
20				Brown Red & Yellow Silty Clay w/Trace Shale Gravel and Trace Organic Material	
25				Brown Red to Gray Silty Clay w/Trace Shale Gravel, Wet	
				Gray Red Silty Clay with Iron Staining, Dry	
30					
35					



ELEV: 1296.62
LAT: 39°41'50.22"N LON: 80°53'55.56"W

Bentonite 0' to 18'

Schedule 40, 2" diameter PVC riser

Sand from 18'-30'

Slotted Screen from 20'-30'

Notes:
ND - Non Detect

STATOIL USA ONSHORE PROPERTIES INC. January 7, 2015

EISENBARTH PAD SOIL SAMPLING DATA

							SCREENING LEVELS	ACTION LEVELS
Sample ID	Collection Date	Collection Time	Analytes	Results	LOQ	Units	USEPA Region 5 RCRA (µg/kg)	OHEPA Industrial / Commercial (µg/kg)
SB-1 / 0'-2'	11/24/2014	13:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	31		µg/Kg-dry	2,500	110,000,000
			Benzene	8.3		µg/Kg-dry	255	140,000
			Toluene	7.2		µg/Kg-dry	5,450	820,000
			Ethylbenzene	1.4 J		µg/Kg-dry	5,160	480,000
			xylenes, total	3.2 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.22 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.8		S.U.	N/A	N/A
			*TTPC	39.7	2.93	µg/Kg	N/A	859,330
			PID	0.5		ppm	N/A	N/A
SB-1 / 2'-4'	11/24/2014	14:25	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	16		µg/Kg-dry	2,500	110,000,000
			Benzene	13		µg/Kg-dry	255	140,000
			Toluene	8.1		µg/Kg-dry	5,450	820,000
			Ethylbenzene	2.6 J		µg/Kg-dry	5,160	480,000
			xylenes, total	3.6 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.33 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.9		S.U.	N/A	N/A
			*TTPC	ND	0.286	µg/Kg	N/A	859,330
			PID	0.6		ppm	N/A	N/A
SB-2 / 0'-2'	11/24/2014	14:45	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	13		µg/Kg-dry	2,500	110,000,000
			Benzene	4.1 J		µg/Kg-dry	255	140,000
			Toluene	1.1 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.20 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	0.286	0.270	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A
SB-2 / 4'-6'	11/24/2014	15:10	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	13		µg/Kg-dry	2,500	110,000,000
			Benzene	0.46 J		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	ND	0.264	µg/Kg	N/A	859,330
			PID	1.0		ppm	N/A	N/A

SB-3 / 0'-2'	11/25/2014	8:41	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	21		µg/Kg-dry	2,500	110,000,000
			Benzene	8.7		µg/Kg-dry	255	140,000
			Toluene	3.5 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.76 J		µg/Kg-dry	5,160	480,000
			xylenes, total	1.3 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.26 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	0.812	0.285	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-4 / 0'-2'	11/25/2014	9:41	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	18		µg/Kg-dry	2,500	110,000,000
			Benzene	1.6 J		µg/Kg-dry	255	140,000
			Toluene	1.7 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.32 J		µg/Kg-dry	5,160	480,000
			xylenes, total	1.1 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	ND	0.277	µg/Kg	N/A	859,330
			PID	0.3		ppm	N/A	N/A
SB-4 / 2'-4'	11/25/2014	9:51	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	10		µg/Kg-dry	2,500	110,000,000
			Benzene	1.6 J		µg/Kg-dry	255	140,000
			Toluene	0.71 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	9		S.U.	N/A	N/A
			*TTPC	ND	0.258	µg/Kg	N/A	859,330
			PID	0.6		ppm	N/A	N/A
SB-5 / 0'-2'	11/25/2014	10:23	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	21		µg/Kg-dry	2,500	110,000,000
			Benzene	1.8 J		µg/Kg-dry	255	140,000
			Toluene	2.7 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.44 J		µg/Kg-dry	5,160	480,000
			xylenes, total	1.5 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	9		S.U.	N/A	N/A
			*TTPC	ND	0.262	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

SB-5 / 2'-4'	11/25/2014	10:37	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	14		µg/Kg-dry	2,500	110,000,000
			Benzene	2.3 J		µg/Kg-dry	255	140,000
			Toluene	0.80 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.9		S.U.	N/A	N/A
			*TTPC	ND	0.261	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A
SB-6 / 0'-2'	11/25/2014	11:30	benzo(a)anthracene	8.6		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	24		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	19		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	16		µg/Kg-dry	148,000	580,000
			chrysene	5.9 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	20		µg/Kg-dry	109,000	58,000
			Acetone	43		µg/Kg-dry	2,500	110,000,000
			Benzene	13		µg/Kg-dry	255	140,000
			Toluene	12		µg/Kg-dry	5,450	820,000
			Ethylbenzene	1.8 J		µg/Kg-dry	5,160	480,000
			xylenes, total	4.5 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.29 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.0		S.U.	N/A	N/A
			*TTPC	2.65	0.282	µg/Kg	N/A	859,330
			PID	0.3		ppm	N/A	N/A
SB-6 / 24'-26'	11/25/2014	13:25	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	15		µg/Kg-dry	2,500	110,000,000
			Benzene	30		µg/Kg-dry	255	140,000
			Toluene	12		µg/Kg-dry	5,450	820,000
			Ethylbenzene	3.3 J		µg/Kg-dry	5,160	480,000
			xylenes, total	5.3 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.42 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.9		S.U.	N/A	N/A
			*TTPC	ND	0.288	µg/Kg	N/A	859,330
			PID	1		ppm	N/A	N/A
SB-7 / 0'-2'	11/25/2014	14:55	benzo(a)anthracene	15		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	28		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	24		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	17		µg/Kg-dry	148,000	580,000
			chrysene	13		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	20		µg/Kg-dry	109,000	58,000
			Acetone	29		µg/Kg-dry	2,500	110,000,000
			Benzene	4.3 J		µg/Kg-dry	255	140,000
			Toluene	6.7		µg/Kg-dry	5,450	820,000
			Ethylbenzene	1.4 J		µg/Kg-dry	5,160	480,000
			xylenes, total	4.6 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.25 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	26.4	2.59	µg/Kg	N/A	859,330
			PID	0.5		ppm	N/A	N/A

SB-7 / 4'-6'	11/25/2014	15:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	9.2 J		µg/Kg-dry	2,500	110,000,000
			Benzene	1.1 J		µg/Kg-dry	255	140,000
			Toluene	1.3 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.24 J		µg/Kg-dry	5,160	480,000
			xylenes, total	1.0 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	0.542	0.267	µg/Kg	N/A	859,330
			PID	0.5		ppm	N/A	N/A
SB-8 / 0'-2'	11/25/2014	15:30	benzo(a)anthracene	6.2 J		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	3.8 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	1.8 J		µg/Kg-dry	255	140,000
			Toluene	3.6 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.92 J		µg/Kg-dry	5,160	480,000
			xylenes, total	2.1 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	52.2	2.58	µg/Kg	N/A	859,330
			PID	0.7		ppm	N/A	N/A
SB-8 / 4'-6'	11/25/2014	15:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	9.7 J		µg/Kg-dry	2,500	110,000,000
			Benzene	0.43 J		µg/Kg-dry	255	140,000
			Toluene	0.43 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	ND	0.265	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-9 / 0'-2'	12/3/2014	10:32	benzo(a)anthracene	8.9		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	5.2 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	9.3 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.66 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.6		S.U.	N/A	N/A
			*TTPC	39.0	2.91	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

SB-9 / 2'-4'	12/3/2014	10:37	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.30 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	ND	0.266	µg/Kg	N/A	859,330
			PID	0.6		ppm	N/A	N/A
SB-9 / 2'-4' **DUPE - 1**	12/3/2014	10:37	benzo(a)anthracene	8.6		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	12		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	9.6		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	5.5 J		µg/Kg-dry	148,000	580,000
			chrysene	4.1 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	6.2 J		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	11		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.25 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	ND	0.266	µg/Kg	N/A	859,330
SB-10 / 0'-2'	12/3/2014	11:05	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	12 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.99 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	113	13.4	µg/Kg	N/A	859,330
			PID	1.5		ppm	N/A	N/A
SB-10 / 2'-4'	12/3/2014	11:20	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	2.9 J		µg/Kg-dry	2,500	110,000,000
			Benzene	0.26 J		µg/Kg-dry	255	140,000
			Toluene	0.72 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.20 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	11.8	1.4	µg/Kg	N/A	859,330
			PID	0.6		ppm	N/A	N/A

SB-11 / 0'-2'	12/3/2014	12:40	benzo(a)anthracene	9.6		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	11		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	11		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	6.0 J		µg/Kg-dry	148,000	580,000
			chrysene	5.0 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	14		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	0.24 J		µg/Kg-dry	255	140,000
			Toluene	0.43 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	78.3	5.41	µg/Kg	N/A	859,330
			PID	1.4		ppm	N/A	N/A
SB-11 / 4'-6'	12/3/2014	13:00	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	10 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.70 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	19.4	1.33	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-12 / 0'-2'	12/3/2014	13:30	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	16.3	1.37	µg/Kg	N/A	859,330
			PID	0.8		ppm	N/A	N/A
SB-12 / 2'-4'	12/3/2014	13:45	benzo(a)anthracene	28		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	30		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	39		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	19		µg/Kg-dry	148,000	580,000
			chrysene	21		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	10		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	26		µg/Kg-dry	109,000	58,000
			Acetone	6.3 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.28 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.6		S.U.	N/A	N/A
			*TTPC	0.757	0.263	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

SB-13 / 0'-2'	12/3/2014	14:25	benzo(a)anthracene	10		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	5.5 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.6		S.U.	N/A	N/A
			*TTPC	12.0	0.529	µg/Kg	N/A	859,330
			PID	0.7		ppm	N/A	N/A
SB-13 / 4'-6'	12/3/2014	14:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.40 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	0.413	0.268	µg/Kg	N/A	859,330
			PID	1.1		ppm	N/A	N/A
SB-14 / 0'-2'	12/3/2014	15:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	25 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	14 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	23.4	2.84	µg/Kg	N/A	859,330
			PID	2.0		ppm	N/A	N/A
SB-14 / 2'-4'	12/3/2014	15:35	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	3.9 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.42 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	3.57	0.273	µg/Kg	N/A	859,330
			PID	0.7		ppm	N/A	N/A

SB-15 / 2'-4'	12/3/2014	17:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.35 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	13.7	0.550	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-15 / 26'-28'	12/4/2014	9:15	benzo(a)anthracene	11		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	12		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	15		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	6.0 J		µg/Kg-dry	148,000	580,000
			chrysene	6.4 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	13		µg/Kg-dry	109,000	58,000
			Acetone	11		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.43 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	ND	0.287	µg/Kg	N/A	859,330
SB-15 / 28'-30'	12/5/2014	9:25	PID	ND		ppm	N/A	N/A
SB-16 / 0'-2'	12/4/2014	11:15	benzo(a)anthracene	16		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	13		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	14		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	5.5 J		µg/Kg-dry	148,000	580,000
			chrysene	7.8 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	10		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	720	23.7	µg/Kg	N/A	859,330
			PID	1.2		ppm	N/A	N/A
SB-16 / 8'-10'	12/4/2014	11:42	benzo(a)anthracene	8.8		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	5.3 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	2.8 J		µg/Kg-dry	255	140,000
			Toluene	1.3 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.26 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.8		S.U.	N/A	N/A
			*TTPC	7.85	0.302	µg/Kg	N/A	859,330
			PID	1.7		ppm	N/A	N/A

SB-17 / 0'-2'	12/4/2014	15:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	40		µg/Kg-dry	2,500	110,000,000
			Benzene	13		µg/Kg-dry	255	140,000
			Toluene	7.6		µg/Kg-dry	5,450	820,000
			Ethylbenzene	2.0 J		µg/Kg-dry	5,160	480,000
			xylenes, total	3.0 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.22 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.1		S.U.	N/A	N/A
			*TTPC	ND	0.312	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-17 / 26'-28'	12/4/2014	17:20	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	36		µg/Kg-dry	2,500	110,000,000
			Benzene	44		µg/Kg-dry	255	140,000
			Toluene	18		µg/Kg-dry	5,450	820,000
			Ethylbenzene	4.1 J		µg/Kg-dry	5,160	480,000
			xylenes, total	7.5		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.59 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	ND	0.272	µg/Kg	N/A	859,330
			PID	1.1		ppm	N/A	N/A
SB-18 / 0'-2'	12/5/2014	11:20	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	50		µg/Kg-dry	2,500	110,000,000
			Benzene	8.8		µg/Kg-dry	255	140,000
			Toluene	4.6 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	1.0 J		µg/Kg-dry	5,160	480,000
			xylenes, total	2.0 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.6		S.U.	N/A	N/A
			*TTPC	10.7	0.302	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-18 / 32'-34'	12/5/2014	13:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	12 J		µg/Kg-dry	2,500	110,000,000
			Benzene	22		µg/Kg-dry	255	140,000
			Toluene	11		µg/Kg-dry	5,450	820,000
			Ethylbenzene	3.0 J		µg/Kg-dry	5,160	480,000
			xylenes, total	4.2 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.35 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	ND	0.275	µg/Kg	N/A	859,330
			PID	0.5		ppm	N/A	N/A

SB-19/ 0'-2'	12/8/2014	8:05	benzo(a)anthracene	17		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	19		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	22		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	11		µg/Kg-dry	148,000	580,000
			chrysene	16		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	N/A		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	20		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.29 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.6		S.U.	N/A	N/A
			*TTPC	1.14	0.299	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-19/ 2'-4'	12/8/2014	8:20	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.52 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.6		S.U.	N/A	N/A
			*TTPC	6.65	0.296	µg/Kg	N/A	859,330
			PID	0.1		ppm	N/A	N/A
SB-20 / 0'-2'	12/8/2014	9:45	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	65		µg/Kg-dry	2,500	110,000,000
			Benzene	3.4 J		µg/Kg-dry	255	140,000
			Toluene	1.8 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.37 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.6		S.U.	N/A	N/A
			*TTPC	0.343	0.289	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-20 / 32'-34'	12/8/2014	12:25	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	19		µg/Kg-dry	2,500	110,000,000
			Benzene	49		µg/Kg-dry	255	140,000
			Toluene	26		µg/Kg-dry	5,450	820,000
			Ethylbenzene	5.4		µg/Kg-dry	5,160	480,000
			xylenes, total	13		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	0.75 J		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.9		S.U.	N/A	N/A
			*TTPC	ND	0.270	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A

SB-21/ 0'-2'	12/8/2014	15:24	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	5.7		µg/Kg-dry	255	140,000
			Toluene	2.8 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.60 J		µg/Kg-dry	5,160	480,000
			xylenes, total	0.96 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.5		S.U.	N/A	N/A
			*TTPC	0.355	0.293	µg/Kg	N/A	859,330
			PID	0.3		ppm	N/A	N/A
SB-21/ 10'-12'	12/8/2014	16:45	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	8.9		µg/Kg-dry	2,500	110,000,000
			Benzene	3.2 J		µg/Kg-dry	255	140,000
			Toluene	1.2 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.21 J		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.8		S.U.	N/A	N/A
			*TTPC	ND	0.281	µg/Kg	N/A	859,330
			PID	0.9		ppm	N/A	N/A
SB-22/ 0'-2'	12/9/2014	9:40	benzo(a)anthracene	10		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	20		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	29		µg/Kg-dry	2,500	110,000,000
			Benzene	2.4 J		µg/Kg-dry	255	140,000
			Toluene	4.6 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	1.3 J		µg/Kg-dry	5,160	480,000
			xylenes, total	2.7 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	16.2	2.65	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-22/ 6'-8'	12/9/2014	10:45	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	13		µg/Kg-dry	2,500	110,000,000
			Benzene	2.2 J		µg/Kg-dry	255	140,000
			Toluene	0.78 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	ND	0.268	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

SB-22/ 0'-2'	12/9/2014	9:40	benzo(a)anthracene	13		µg/Kg-dry	5,210	58,000
DUPE - 2			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	19		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	23		µg/Kg-dry	2,500	110,000,000
			Benzene	2.8 J		µg/Kg-dry	255	140,000
			Toluene	4.4 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	0.95 J		µg/Kg-dry	5,160	480,000
			xylenes, total	2.1 J		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	70.5	2.66	µg/Kg	N/A	859,330
SB-23/ 0'-2'	12/9/2014	14:35	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	3.1 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.39 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.0		S.U.	N/A	N/A
			*TTPC	5.23	0.303	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-23 / 18'-20'	12/10/2014	13:15	benzo(a)anthracene	65		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	46		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	65		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	29		µg/Kg-dry	148,000	580,000
			chrysene	58		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	15		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	33		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.33 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.8		S.U.	N/A	N/A
			*TTPC	ND	0.301	µg/Kg	N/A	859,330
			PID	0.3		ppm	N/A	N/A
SB-24/ 0'-2'	12/9/2014	15:35	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.38 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.0		S.U.	N/A	N/A
			*TTPC	27.1	1.34	µg/Kg	N/A	859,330
			PID	1.1		ppm	N/A	N/A

SB-24/ 8'-10'	12/9/2014	17:00	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	9.0 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.51 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	ND	0.267	µg/Kg	N/A	859,330
			PID	3.1		ppm	N/A	N/A
SB-25 / 0'-2'	12/10/2014	11:00	benzo(a)anthracene	17		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	19		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	30		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	13		µg/Kg-dry	148,000	580,000
			chrysene	31		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	15		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	30 J		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	11.1	0.267	µg/Kg	N/A	859,330
			PID	0.5		ppm	N/A	N/A
SB-25/ 12'-14'	12/10/2014	12:30	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	7.4 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.83 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.0		S.U.	N/A	N/A
			*TTPC	0.336	0.278	µg/Kg	N/A	859,330
			PID	1.6		ppm	N/A	N/A
SB-26/ 0'-2'	12/10/2014	15:05	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.55 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	36.8	2.68	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

SB-26/ 6'-7'	12/10/2014	15:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	ND	0.264	µg/Kg	N/A	859,330
			PID	11.7		ppm	N/A	N/A
SB-27/ 0'-2'	12/10/2014	16:00	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.29 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	35.3	2.69	µg/Kg	N/A	859,330
			PID	0.7		ppm	N/A	N/A
SB-27/ 2'-4'	12/10/2014	16:05	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	4.5 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.34 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.8		S.U.	N/A	N/A
			*TTPC	0.645	0.270	µg/Kg	N/A	859,330
			PID	0.3		ppm	N/A	N/A
SB-28/ 0'-2'	12/11/2014	9:15	benzo(a)anthracene	11		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	7.2		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	1.75	0.295	µg/Kg	N/A	859,330
			PID	1.1		ppm	N/A	N/A

SB-28/ 10'-12'	12/11/2014	10:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	4.7 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	ND	0.275	µg/Kg	N/A	859,330
			PID	1.4		ppm	N/A	N/A
SB-29/ 0'-2'	12/11/2014	10:28	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	9.0		S.U.	N/A	N/A
			*TTPC	52.4	2.63	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A
SB-29/ 28'-30'	12/11/2014	12:55	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	8.6 J		µg/Kg-dry	2,500	110,000,000
			Benzene	0.77 J		µg/Kg-dry	255	140,000
			Toluene	0.64 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	0.567	0.267	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-30/ 0'-2'	12/11/2014	12:00	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	19		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.26 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.4		S.U.	N/A	N/A
			*TTPC	0.949	0.264	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A

SB-30/ 10'-12'	12/11/2014	12:45	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	35		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.49 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.1		S.U.	N/A	N/A
			*TTPC	ND	0.284	µg/Kg	N/A	859,330
			PID	3.2		ppm	N/A	N/A
SB-31 / 0'-2'	12/11/2014	13:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	7.0		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	60		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	9.1		S.U.	N/A	N/A
			*TTPC	14.9	1.35	µg/Kg	N/A	859,330
			PID	45.1		ppm	N/A	N/A
SB-31 / 2'-4'	12/11/2014	14:10	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.1		S.U.	N/A	N/A
			*TTPC	0.647	0.295	µg/Kg	N/A	859,330
			PID	135		ppm	N/A	N/A
SB-32 / 0'-2'	12/11/2014	15:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.5		S.U.	N/A	N/A
			*TTPC	106	6.40	µg/Kg	N/A	859,330
			PID	5.2		ppm	N/A	N/A

SB-32 / 30'-31'	12/12/2014	12:30	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	0.52 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	ND	0.287	µg/Kg	N/A	859,330
			PID	6.0		ppm	N/A	N/A
SB-33 / 0'-2'	12/15/2014	9:20	benzo(a)anthracene	12		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	3.6 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.7		S.U.	N/A	N/A
			*TTPC	2,080	75.0	µg/Kg	N/A	859,330
			PID	3.0		ppm	N/A	N/A
SB-33 / 0'-2'	12/15/2014	9:10	benzo(a)anthracene	16		µg/Kg-dry	5,210	58,000
DUP - 3			benzo(a)pyrene	33		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	29		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	21		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	30		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.7		S.U.	N/A	N/A
			*TTPC	225	30.6	µg/Kg	N/A	859,330
SB-33 / 8'-10'	12/15/2014	9:55	benzo(a)anthracene	750		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	550		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	700		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	310		µg/Kg-dry	148,000	580,000
			chrysene	740		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	79		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	280		µg/Kg-dry	109,000	58,000
			Acetone	7.3		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	6.5		S.U.	N/A	N/A
			*TTPC	53.1	15.2	µg/Kg	N/A	859,330
			PID	5.1		ppm	N/A	N/A

SB-34 / 0'-2'	12/15/2014	8:33	benzo(a)anthracene	15		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.8		S.U.	N/A	N/A
			*TTPC	94.5	13.4	µg/Kg	N/A	859,330
			PID	ND		ppm	N/A	N/A
SB-34 / 8'-10'	12/15/2014	9:12	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.7		S.U.	N/A	N/A
			*TTPC	ND	0.274	µg/Kg	N/A	859,330
			PID	0.2		ppm	N/A	N/A
SB-35 / 0'-2'	12/15/2014	9:55	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	6,470	727	µg/Kg	N/A	859,330
			PID	0.7		ppm	N/A	N/A
SB-35 / 2'-4'	12/15/2014	10:12	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	41		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	7.9		S.U.	N/A	N/A
			*TTPC	3,070	298	µg/Kg	N/A	859,330
			PID	0.6		ppm	N/A	N/A

SB-36 / 0'-2'	12/15/2014	11:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.6		S.U.	N/A	N/A
			*TTPC	2,870	264	µg/Kg	N/A	859,330
			PID	10.3		ppm	N/A	N/A
SB-36 / 4'-6'	12/15/2014	12:15	benzo(a)anthracene	26		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	6.6 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	20		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	1.5 J		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.1		S.U.	N/A	N/A
			*TTPC	8.91	1.47	µg/Kg	N/A	859,330
			PID	8.9		ppm	N/A	N/A
SB-37 / 0'-2'	12/15/2014	13:50	benzo(a)anthracene	17		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	32		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	31		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	20		µg/Kg-dry	148,000	580,000
			chrysene	6.7 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	33		µg/Kg-dry	109,000	58,000
			Acetone	28		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.2		S.U.	N/A	N/A
			*TTPC	96.3	13.1	µg/Kg	N/A	859,330
			PID	2.3		ppm	N/A	N/A
SB-37 / 2'-4'	12/15/2014	14:00	benzo(a)anthracene	14		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	620 J		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	13		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	6.3		S.U.	N/A	N/A
			*TTPC	N/A		µg/Kg	N/A	859,330
			PID	3.9		ppm	N/A	N/A

SB-37 / 4'-6'	12/15/2014	14:20	*TTPC	8.28	0.297	µg/Kg	N/A	859,330
			PID	1.4		ppm	N/A	N/A
SB-38 / 0'-2'	12/15/2014	15:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	29		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	1.7 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.5		S.U.	N/A	N/A
			*TTPC	13.3	1.31	µg/Kg	N/A	859,330
			PID	3.6		ppm	N/A	N/A
SB-38 / 2'-4'	12/15/2014	15:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	17		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	1.1 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	13.6	2.72	µg/Kg	N/A	859,330
			PID	1.9		ppm	N/A	N/A
SB-39 / 0'-2'	12/15/2014	15:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	7.4		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	1.4 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	22.5	2.69	µg/Kg	N/A	859,330
			PID	10.6		ppm	N/A	N/A
SB-39 / 2'-4'	12/15/2014	15:25	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	5.0		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.3		S.U.	N/A	N/A
			*TTPC	16.2	2.82	µg/Kg	N/A	859,330
			PID	14.8		ppm	N/A	N/A

SB-40 / 0'-2'	12/15/2014	16:30	benzo(a)anthracene	16		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	4.8 J		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	18		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.6		S.U.	N/A	N/A
			*TTPC	68.3	13.0	µg/Kg	N/A	859,330
			PID	3.2		ppm	N/A	N/A
SB-40 / 2'-6'	12/15/2014	16:50	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	24		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	1.5 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.5		S.U.	N/A	N/A
			*TTPC	9.09	2.63	µg/Kg	N/A	859,330
SB-41 / 0'-2'	12/16/2014	8:10	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	12		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	1.8 J		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.7		S.U.	N/A	N/A
			*TTPC	3.61	0.263	µg/Kg	N/A	859,330
			PID	1.7		ppm	N/A	N/A
SB-41 / 2'-4'	12/16/2014	8:40	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	8.0		S.U.	N/A	N/A
			*TTPC	ND	0.273	µg/Kg	N/A	859,330
			PID	2.8		ppm	N/A	N/A

SB-42 / 0'-2'	12/16/2014	8:15	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	28		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	6.7		S.U.	N/A	N/A
			*TTPC	ND	0.293	µg/Kg	N/A	859,330
			PID	0.1		ppm	N/A	N/A
SB-42 / 0'-2'	12/16/2014	8:15	benzo(a)anthracene	9.3		µg/Kg-dry	5,210	58,000
DUPE 4			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	6.1		S.U.	N/A	N/A
			*TTPC	0.396	0.310	µg/Kg	N/A	859,330
SB-42 / 2'-4'	12/16/2014	8:25	benzo(a)anthracene	ND		µg/Kg-dry	5,210	58,000
			benzo(a)pyrene	ND		µg/Kg-dry	1,520	5,800
			benzo(b)fluoranthene	ND		µg/Kg-dry	N/A	58,000
			benzo(k)fluoranthene	ND		µg/Kg-dry	148,000	580,000
			chrysene	ND		µg/Kg-dry	4,730	5,800,000
			dibenzo(a,h)anthracene	ND		µg/Kg-dry	18,400	5,800
			indeno(1,2,3-cd)pyrene	ND		µg/Kg-dry	109,000	58,000
			Acetone	ND		µg/Kg-dry	2,500	110,000,000
			Benzene	ND		µg/Kg-dry	255	140,000
			Toluene	ND		µg/Kg-dry	5,450	820,000
			Ethylbenzene	ND		µg/Kg-dry	5,160	480,000
			xylenes, total	ND		µg/Kg-dry	10,000	260,000
			Isopropylbenzene	ND		µg/Kg-dry	N/A	270,000
			naphthalene	ND		µg/Kg-dry	99	450,000
			isopropyl alcohol	ND		µg/Kg-dry	N/A	N/A
			pH	5.7		S.U.	N/A	N/A
			*TTPC	ND	0.304	µg/Kg	N/A	859,330
			PID	0.4		ppm	N/A	N/A

NOTE:

J = Indicates the result is between the Method of Detection Limit and LOQ
LOQ = Limit of Quantitation
ND = Not Detected

***** TTPC Soil Screening Levels are preliminary and based on published Koc values and EPA Guidelines for Sediment Equilibrium Partitioning.

STATOIL USA ONSHORE PROPERTIES INC. January 7, 2015

EISENBARTH PAD WATER SAMPLING DATA

Sample ID	Collection Date	Collection Time	Analytes	Results	LOQ	Units	Ohio EPA Ground Water Drinking Water Standards(µg/L)
GP 08	12/17/2014	12:45	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	3.4 J		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	7.09		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

GP 19	12/17/2014	12:15	benzo(a)anthracene	N/A		µg/L	0.034
			benzo(a)pyrene	N/A		µg/L	0.2
			benzo(b)fluoranthene	N/A		µg/L	N/A
			benzo(k)fluoranthene	N/A		µg/L	0.34
			chrysene	N/A		µg/L	3.4
			dibenzo(a,h)anthracene	N/A		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	N/A		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	1.8 J		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	N/A		µg/L	N/A
			pH	N/A		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1
GP 22	12/16/2014	15:55	benzo(a)anthracene	N/A		µg/L	0.034
			benzo(a)pyrene	N/A		µg/L	0.2
			benzo(b)fluoranthene	N/A		µg/L	N/A
			benzo(k)fluoranthene	N/A		µg/L	0.34
			chrysene	N/A		µg/L	3.4
			dibenzo(a,h)anthracene	N/A		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	N/A		µg/L	0.034
			Acetone	3.8 J		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	N/A		µg/L	N/A
			pH	N/A		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

GP 23	12/17/2014	10:00	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	6.66		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1
GP 24	12/17/2014	9:15	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	7.02		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

GP 26	12/17/2014	8:10	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	6.20		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1
GP 28	12/16/2014	13:55	benzo(a)anthracene	N/A		µg/L	0.034
			benzo(a)pyrene	N/A		µg/L	0.2
			benzo(b)fluoranthene	N/A		µg/L	N/A
			benzo(k)fluoranthene	N/A		µg/L	0.34
			chrysene	N/A		µg/L	3.4
			dibenzo(a,h)anthracene	N/A		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	N/A		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	N/A		µg/L	N/A
			pH	N/A		S.U.	6.5-8.5
			*TTPC	RP	RP	µg/L	1

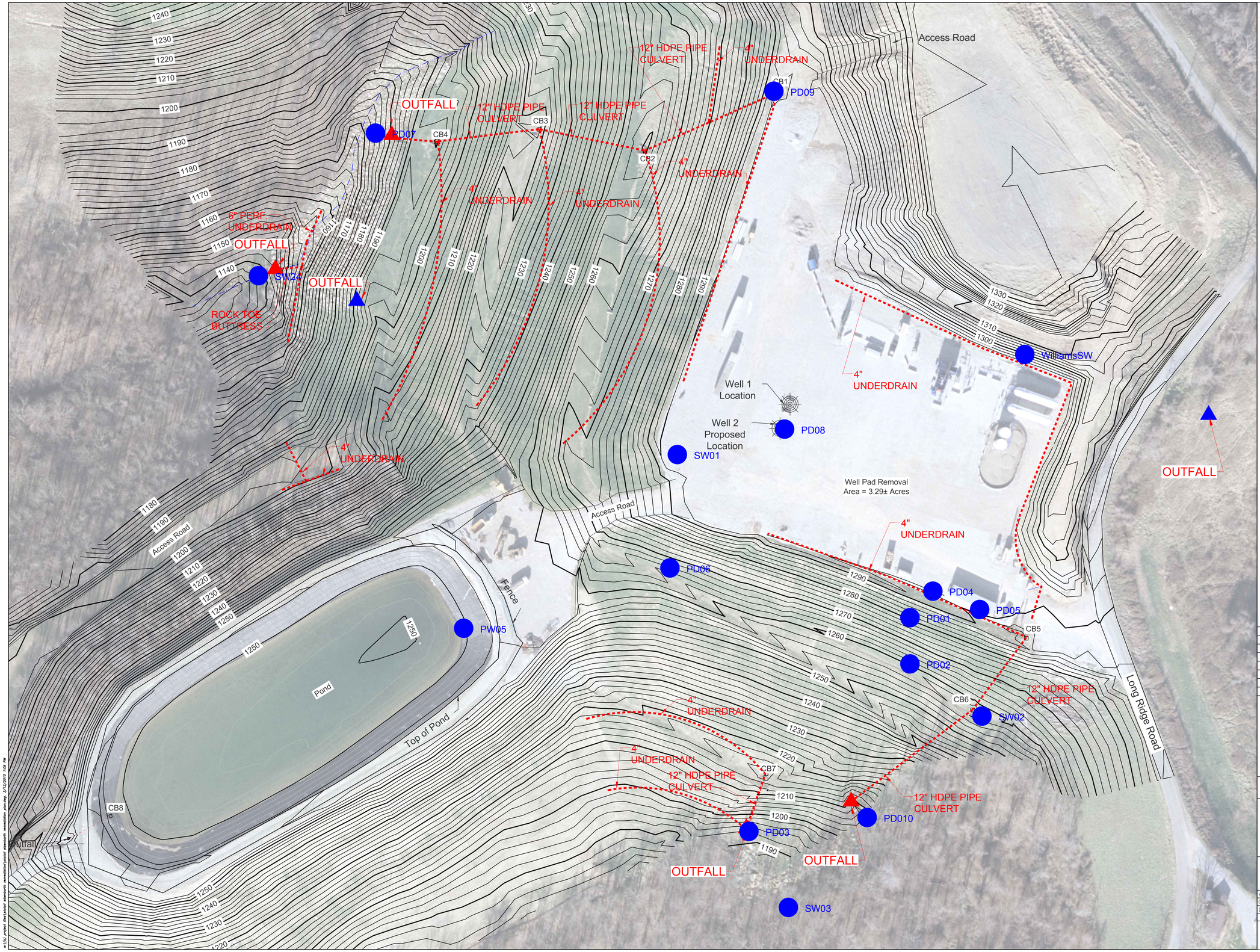
SB 15W	12/18/2014	14:00	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	7.30		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1
SB 20W	12/18/2014	12:00	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	0.63 J		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	0.88 J		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	7.10		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

SB 21W	12/18/2014	13:20	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	0.72 J		µg/L	5
			Toluene	0.41 J		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	1.0 J		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	6.97		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1
SB 31W	12/18/2014	8:50	benzo(a)anthracene	ND		µg/L	0.034
			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	ND		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	1.0 J		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	ND		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	6.89		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

SB 20W	12/18/2014	12:10	benzo(a)anthracene	ND		µg/L	0.034
DUP-5			benzo(a)pyrene	ND		µg/L	0.2
			benzo(b)fluoranthene	ND		µg/L	N/A
			benzo(k)fluoranthene	ND		µg/L	0.34
			chrysene	ND		µg/L	3.4
			dibenzo(a,h)anthracene	ND		µg/L	0.0034
			indeno(1,2,3-cd)pyrene	ND		µg/L	0.034
			Acetone	ND		µg/L	14000
			Benzene	0.66 J		µg/L	5
			Toluene	ND		µg/L	1000
			Ethylbenzene	ND		µg/L	700
			xylenes, total	ND		µg/L	10000
			Isopropylbenzene	ND		µg/L	450
			naphthalene	0.79 J		µg/L	40000
			isopropyl alcohol	ND		µg/L	N/A
			pH	7.06		S.U.	6.5-8.5
			*TTPC	ND	0.1	µg/L	1

NOTE:

J = Indicates the result is between the Method of Detection Limit and LOQ
LOQ = Limit of Quantitation
ND = Not Detected
RP = Results Pending
N/A= Not Analyzed due to Insufficent Quantity of Water



LEGEND

- PENN E&R SURVEY LIMIT 9/05/2012
- EFFECTED AREA 8/03/2012
- EXISTING STREAM
- EFFECTED AREA 8/03/2012
- EXISTING STREAM
- APPROXIMATE LOCATION OF 4" UNDERDRAIN WITH GRANULAR TRENCH
- PAD / SLOPE DRAINAGE OUTFALLS
- ADDITIONAL OUTFALLS
- PD010 WATER SAMPLE LOCATIONS

CATCH BASIN INFORMATION

	TG	INVERT
CB 1	1290.22	1288.31
CB 2	1249.36	1247.46
CB 3	1217.24	1215.30
CB 4	1189.71	1187.75
OUTFALL	-	1183.69

FIGURE 2

DATE	DESCRIPTION
07/08/2014	ADD DIMENSIONS TO PAD
08/21/2014	ENLARGE SCALE, REDUCED CONTOUR DATA
08/22/2014	MOVE LABEL
03/12/2015	ADD WATER SAMPLE LOCATIONS, CHANGE SCALE

GRAPHIC SCALE 1"=50'
0 50' 100' 150'

STATOIL EISENBARTH PAD
EXISTING DRAINAGE LOCATIONS
OHIO TOWNSHIP
MONROE COUNTY, OHIO

PREPARED FOR
STATOIL USA ONSHORE PROPERTIES INC
HOUSTON, TEXAS

APPROVED	MSK 08/01/2014
CHECKED	MSK 08/01/2014
DRAWN	AMHC 08/01/2014
PROJECT No.	4000-NM6484

DRAWING NUMBER
NM6484-01
SHEET 1 OF 1

Penn E&R
Environmental & Remediation, Inc.
323 MAIN STREET
NEW MARTINSVILLE, WV 26155
304-455-0213